Food Packer

Canning Glasspacking Freezing

January 1953

Man-of-the-month: Conrad A. Elvehjem

The scientific study of vitamins and enzymes, and their relation to human nutrition, has given him national recognition. Page 52.

The Fairmont Canning Company.

Another of FOOD PACKER'S articles on outstanding food processing plants.

Fairmont stacks pea vines with a tractor, thereby replacing three men. Page 24.

• • •

National Canners Association and Canning Machinery & Supplies Association.

Fred Heinz reviews relationship between canner and supplier. Page 27.

Taste-test methods for evaluating flavor of processed foods.

Gould outlines advantages, limits, and applications of subjective flavor evaluation methods. Page 36.

A Vance Publication

The National Magazine of Production and Management

TEPP*

death knell for pests

Dust one day—harvest poison-free crops two days later!

Yes, amazing TEPP makes this possible. TEPP is swift and sure—a powerful killer that leaves no lingering poison residue. When handled according to recommended procedures, it is ideally suited to a quick bug clean-up. With this remarkable pest-control ingredient, growers can stop last-minute infestations which often make products unfit for market. Processors and packers can now be assured of cleaner, higher quality crops.

TEPP can be economically formulated 1) as a liquid concentrate, 2) as a stabilized dust, and 3) with other active ingredients. It is compatible with most other pesticides.

TEPP in its pre-spray or active form, as are other highly potent insecticides, is very toxic to man. Adequate precaution must therefore be taken in its handling and shipping. Instructions for proper mixing and safe handling are available from the manufacturers of TEPP.

For fewer rejects and consistently higher grade crops that need less washing, specify formulations containing TEPP. Ask your supplier for further information about this effective pest-destroyer. For the names of the manufacturers of TEPP, write to Tennessee Eastman Company, Division of Eastman Kodak Company, Kingsport, Tennessee.

TEPP* ***means pest-free crops poison-free crops***

Tetraethyl Pyrophosphate is made from triethyl phosphate—an EASTMAN chemical.* ***TEPP is not made by Tennessee Eastman Company.*

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HEEKIN FOOD ENGINEERING

HEEKIN'S FIFTY-TWO YEARS of PERSONAL SERVICE

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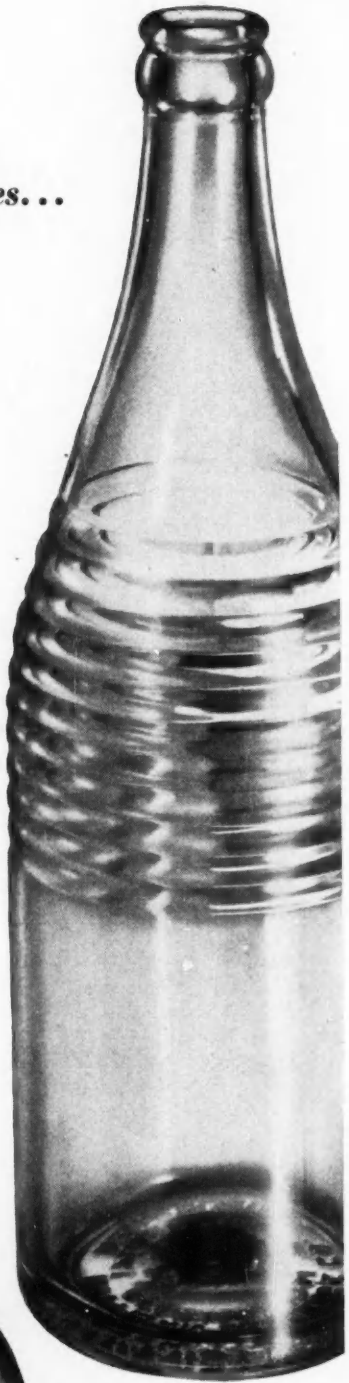

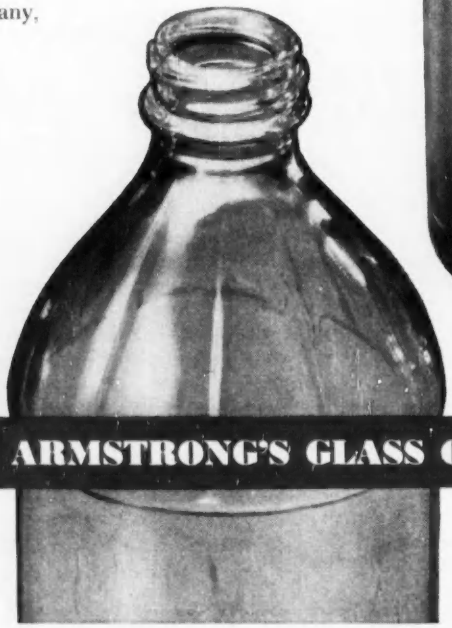

ARMSTRONG'S GLASS CONTAINERS

Food Packer

JANUARY 1953

Herbert A. Vance, Publisher
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Wilbert Schaal, Editor
Helene Comm, Associate Editor
Dr. W. A. Gould, Quality Control Editor
Robert Y. Kerr, Washington Editor
R. B. Lundahl, Advertising Production
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Elmer Olin, Ass't. Circulation Manager

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Kerr reviews food price structure . . . . . **Page 13**
Canned food prices are lower; fresh fruit and vegetable prices are higher than in 1951, Congressional committee finds. More on Food & Drug Administration and the tomato problem.

The Fairmont Canning Co.—custom freezers . . . . . **Page 24**
This famous Minnesota company is noted for hard-hitting management, high labor efficiency, quality products, and participation of employees in day-to-day operation.

How canners and suppliers have worked together . . . . . **Page 27**
Fred Heinz, N.C.A. president, reviews early development and progress of canning machinery and supplies at annual meeting of the New York State Canners and Freezers Association at Buffalo.

Packaging new frozen codfish product . . . . . **Page 32**
New fish package tells the shopper at a glance what is in it, and creates appetite appeal to overcome any resistance to buying a new product.

Methods for evaluating flavor in processed foods . . . . . **Page 36**
Dr. Gould discusses the advantages, limits, and applications of two subjective flavor evaluation methods: consumer preference & panel difference.

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Events to Come

January 19-20. Northwest Canners Assn., annual convention, Olympic Hotel, Seattle, Wash.

January 20-22. Annual training school for processors' fieldmen, Michigan State College, East Lansing.

January 26-27. Canners, fieldmen and growers of vegetable crops for processing, 22nd annual conference, Ohio Union, Ohio State University, Columbus.

January 27 - 28. Iowa - Nebraska Canners conference, canners short course, Iowa State College, Ames.

January 28-29. Wisconsin Canners Assn., fieldmen's conference, Babcock Hall, Madison.

February 2-5. Indiana Canners Assn., canners and fieldmen's conference, Purdue University, Lafayette, Ind.

February 2-13. Double seamers school & food processing school, Food Technology Dept., Oregon State College, Corvallis.

February 4-5. Minnesota Canners Assn., canners' and fieldmen's short course, Curtis Hotel, Minneapolis.

February 9-11. Food Brokers Assn. of Canada, annual meeting, The Seigniory Club, Montebello, Quebec.

February 16-18. Canadian Food Processors Assn., annual convention, Victoria, B. C.

February 19-20. National Pickle Packers Assn., winter meeting, Sheraton Hotel, Chicago.

February 19-25. National Canners Convention and Canning Machinery & Supplies Association Show, Conrad Hilton Hotel, Chicago.

February 27-28. Virginia Canners Assn., annual meeting, Hotel Roanoke, Roanoke.

March 1-4. National Frozen Foods Convention, Conrad Hilton Hotel, Chicago.

Whose cheese is being divided?

TWO cats could not agree on fair division of a tasty cheese. "Let's go to the monkey," said one, "He is all-wise and can divide our cheese fairly." So to the monkey they went.

The monkey immediately broke the cheese evenly and judicially put the two pieces on the pans of his balance. But one was slightly heavier. He shrewdly nibbled that piece a bit and put it back on the scales. Now it was the lighter piece. So he bit off some of the other piece only to find it the lighter. Thus while the two hungry cats watched, the monkey kept taking bites of the cheese, first one piece, then the other, until finally the cheese had almost disappeared.

"What's left is too small to divide," sagely pronounced the monkey, as he popped the remaining fragments into his mouth.

Observers of the American scene see a direct parallel between the record of federal taxation and this ancient parable of the trusting cats, the greedy monkey and the cheese. Business and the individual citizen have been content to trust government to rule on the disposition of their earnings. And Uncle Sam keeps taking bite after bite out of the shares of both individual citizen and business.

Already government bites are so large as to severely penalize citizens and business alike. If allowed to continue, it will seriously impede further industrial progress and growth, stifle initiative and threaten the strength of our free enterprise system. Beware the day—goal of the socialists among us—when the monkey says, "What's left is too small to divide."

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And as glistening-bright as
the future.
And there's a bright future for
the sale of your products
when they're packed in these
NU-CLEAR Jars.
Streamlined for packing, shipping
and selling, these new H-A showcases
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8 sizes . . . 8 ounces to 32 ounces

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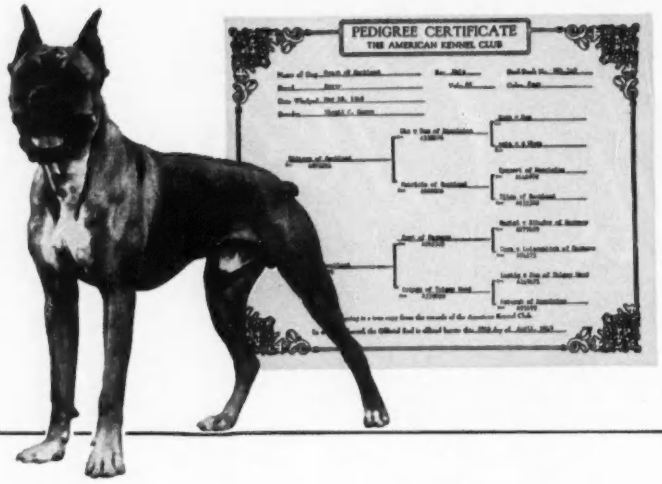
WHEELING, WEST VIRGINIA



THE BOXER, America's No. 1 favorite for 1949, gets his name from the fact he uses his front paws in much the same way as a human boxer when fighting. Coloring of coat ranges from fawn to brindle, but his muzzle is always black.

Buyers Who Know

Look at the Pedigree

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THE UNION SHIELD is the pedigree mark of a box with 75 years of packaging leadership behind it.

That's why Standard Brands uses Union boxes to carry Royal Puddings —choice of millions—to dealers all over the country.

The Union shield means every step in the making, from tree to finished box, is tested and controlled by one management in America's largest integrated pulp-to-container plant.

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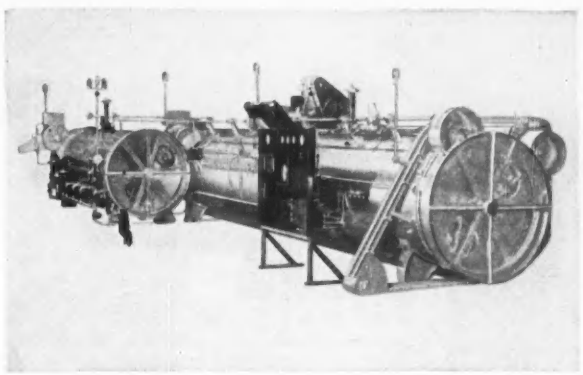
Controlled Cooking at your Finger Tip

...with *fmc's* ONE-MAN COOK ROOM



FMC *STERILMATIC* Cooker and Cooler lines are constructed in several shell combinations to meet the demands of a variety of products requiring extremely long or short cooks.

Through this centralized instrument board, "nerve-center" of the FMC *STERILMATIC** Pressure Cooker and Cooler, the operator has complete and accurate finger-tip control through every stage of sterilizing and cooling.

Because the cooker operates at high speeds and temperatures, this positive control is essential in maintaining a uniform quality pack—with every can *evenly* cooked, and cooked *exactly alike*. This feature, combined with many other outstanding developments of modern FMC *STERILMATIC* cooking and cooling equipment, provides the nation's leading canners with the most advanced food processing lines available today. Get full details on FMC's "one-man cook room," for complete processing control at greatly reduced costs.

*TRADE MARK

Write for new booklet describing modern FMC Continuous Cookers and Coolers —now available on request.

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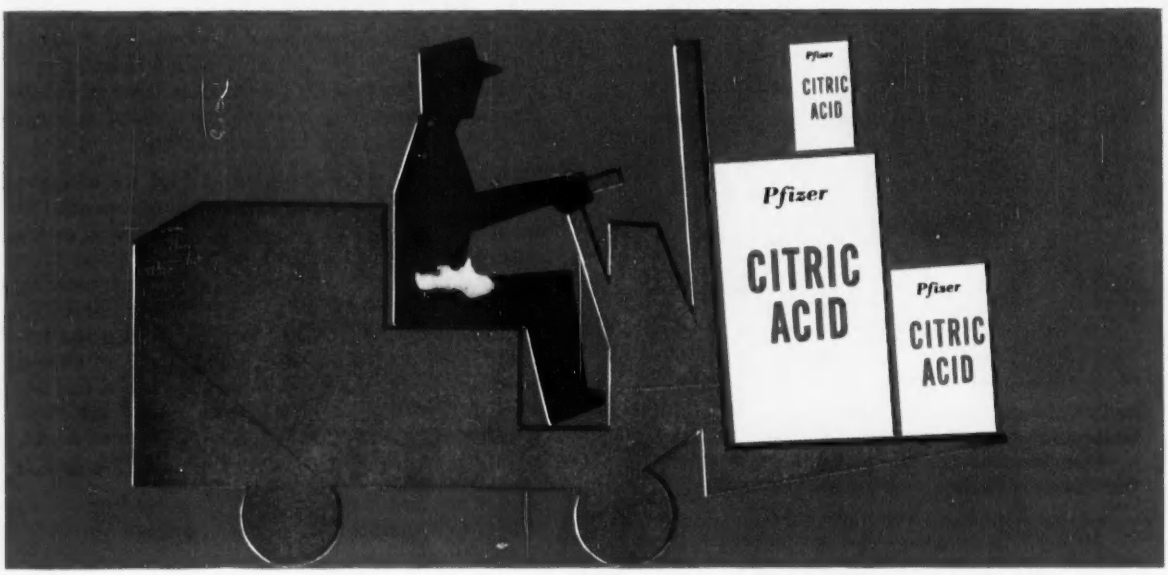

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Pfizer

They Stay FRESH!

Why are more and more narrow-mouth packages adopting the Vapor-Vacuum Method? Here's the answer—*quick!*

Consider these three examples of foods in narrow-mouth ware:

SYRUPS. Despite all the obvious advantages of glass packaging for syrups, brand reputation fades away fast *if syrup caps stick—or if surface molds develop.*

When syrups are Vapor-Vacuum Sealed, however, neither of these twin evils can occur. The cap *can't stick*, and molds *can't grow* in the permanent vacuum.

JUICES in glass are another sales-natural! But here, again, just glass alone isn't enough. The essential trick is *to make sure that flavor never changes*, no matter how long the shelf life. Hence the packer uses Vapor-Vacuum Sealing, the one sure way to maintain flavor and freshness.

VINEGAR, too, can be a real problem child. Vinegar packages which "breathe" under temperature changes are sure to produce a substantial percentage of "leakers." Or, even worse, they are likely to mother.

Both problems disappear when air is removed from the package—and kept out.

• • •

When a packer faces these facts openly and honestly, Vapor-Vacuum Sealing quickly becomes *a must!*

PRODUCT OF
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They're "VAPOR-VACUUM" Sealed!

L-53

Package flow... is our business, always...

Where glass packaging prospers, WHITE CAP prospers too! That's why we're always ready to pitch in and help to improve package flow . . . anywhere on the line!

If you want to find a White Cap service man at work in a packer's plant, don't look for him only at the sealing stage! Although the all-important sealing stage is his primary job, he's likely to be working most anywhere along the line—from unscrambler to caser . . . wherever he's asked to go.

Your White Cap service man and the White Cap engineer range far and wide in the food packing plants because White Cap's interest in packaging lines is never confined to sealing alone. Wherever our sealers are at work, we consider ourselves virtual partners in the entire packaging operation. We want that operation to move as fast and as smoothly and as economically as human ingenuity can make it move.

Result—we're always ready to pour the benefits of our vast experience into our "partners' " packaging operations (*without any service charges to the packer*)—wherever we can help. We do it with ideas, with specially built devices and with standardized equipment of many kinds.

That's why White Cap know-how and White Cap engineering must always be recognized as a powerful force for overall packaging efficiency.

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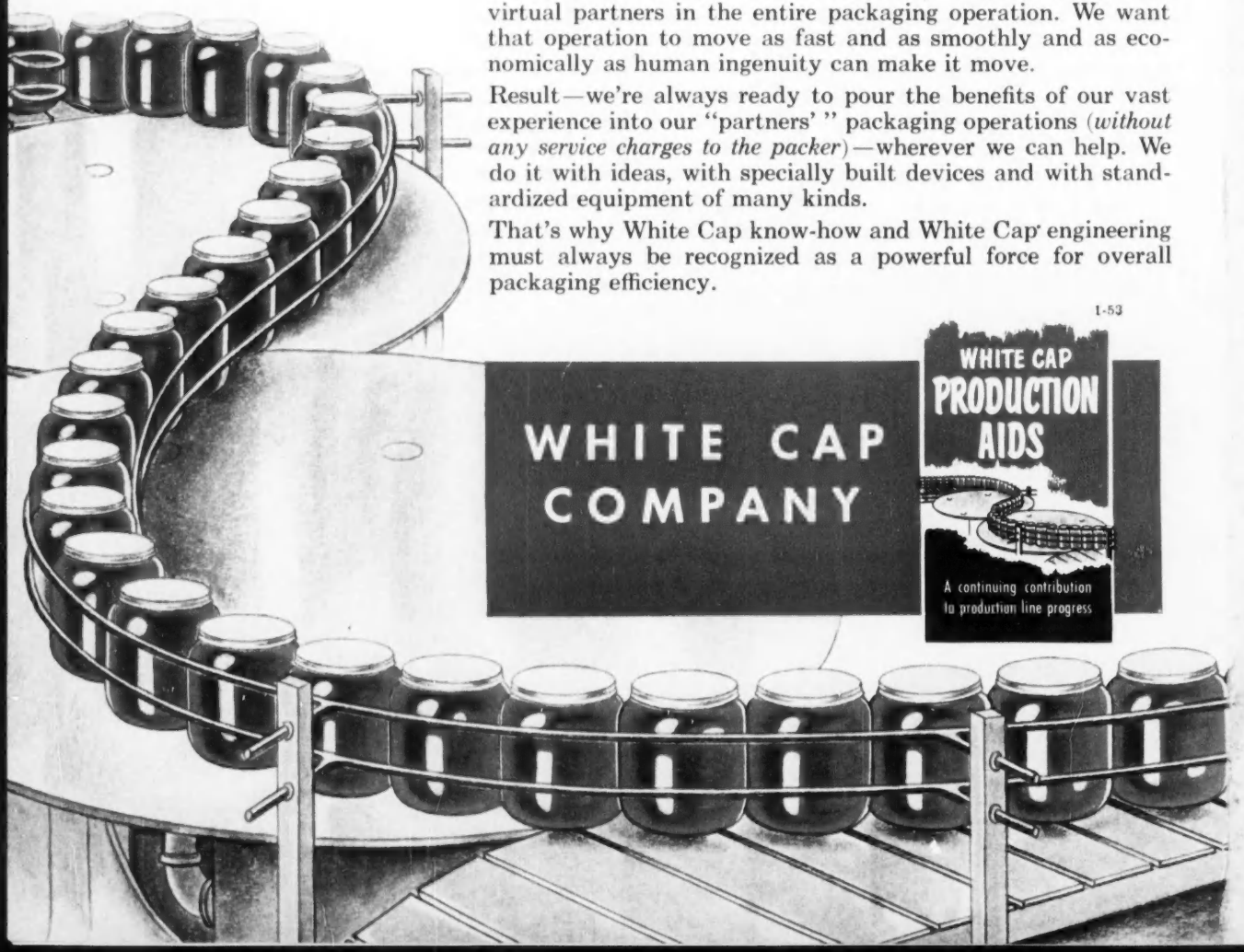


WHITE CAP COMPANY

Washington and You

Robert Y. Kerr, Washington Editor

Congressional Committee reports on prices for canned and fresh foods

Canned food prices are lower, fresh fruit and vegetable prices are higher than in '51, Committee says; F&DA studies fly eggs in tomato products

FOR THE RECORD, or the bulletin board, or whatever, here are the dates of the National Canners Association convention: February 21-25, in Chicago. In the big NCA building on 20th street they tell us the meeting of the board of directors will be on the day before the formal opening of the convention. The annual meeting will be the morning of the 21st and the afternoon of that day will see the start of the management production sessions.

Officials say the program will be divided into four general parts: 1. Advanced processing techniques and quality control, 2. efficient production of high quality raw products, 3. legal and regulatory problems of management, 4. operations analysis and other tools of management. After these general subjects have been outlined, probably in the first management-production session, specific problems will be picked out and given the works in special conferences.

This clambake is one of the biggest and most brilliant of business conventions not only in our industry but in the whole gamut of occupational conclaves. The Windy City takes most outsize assemblages, such as national political conventions, in stride. But it swallows hard and strains at the seams when the canners avalanche in.

There's a lot of important stuff for food processors and distributors in the most recent report of the Congressional Joint Committee on Defense Production, especially because it expresses the probable future opinions of Congress as a whole. The Committee winds up and lets fly every once in a while and the present performance is the 22nd in the series. This special report is pretty largely an analysis of prices and of price margins, measured against cost-of-living calculations.

Canners will be gratified but not surprised that the Congressmen think canned fruits and vegetables are not now inflationary, haven't been in the past, and probably will not be in the future.

Wholesale prices of fresh fruits and vegetables during much of the past spring and summer have ranged from 25 to 40 percent higher than during the corresponding months of '51. However, the Committee views with distaste the suggestion that these commodities be put under ceiling controls. Because of the numerous factors and their variable velocities entering into the price of fresh fruits and vegetables, a control formula would get into the mathematice of relativity in time-space, and all that violent stuff. Enforcement would be hardly less complicated. So the hek with it! Controls don't have so many friends, anyway, except Aunt Carrie and her neighbor women when they ask the price of calves liver and such.

Canned fruits and vegetables, so the Committee says, were lower in price last spring and summer than they were during the same months of '51. It should be added that there was an upward trend in July and August. In an uncontrolled market, according to the report, retail prices of these products are likely to increase somewhat, at least enough to cover the higher costs of transportation and wages.

The Joint Committee says with dry humor that everybody, consumer and business executive alike, thinks prices and costs are too high. An echo of the hard-boiled competition, or of buyer resistance, that's invading our frontiers. Remember that narrowing differential between fresh and processed fruits and vegetables? High raw materials, low processed products. Anyway the consumer points a monitory finger at the retailer; the retailer at the wholesaler; the wholesaler at the processor; the processor at he raw-materials supplier; the supplier at everybody. Consumers and labor leaders want price controls to cut the cost of living. Management wants controls slung out, so that production incentives may have a chance to bring prices down. Labor thinks industry can absorb wage increases. Industry says it's fresh out of absorbents, what with endless wage demands and cost-of-living contracts. So it goes, like the old woman who lived in the shoe. Will something have to give? Maybe not. Just people acting like people.

F&DA at work

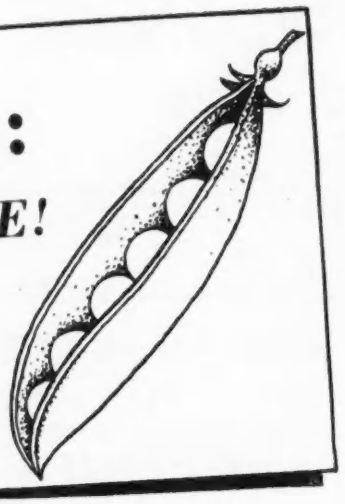
The Food and Drug specialists are still doing their regulative stuff; still trying to make the groceries and the drug-store simples safe for democracy (with a small d, of course.) This time they're after the much harried tomato once more. Reminds a certain careworn canner of a farmer who lived on the Indiana frontier, some four or five generations ago. Seems the grown-up daughters of the family wanted the old pioneer to modernize his two-story log cabin by adding a stairway so the girls wouldn't have to climb an outside ladder and shinny through a window before they went to bed. But this was too much for the old man. He muttered that them gels was gettin' dern p'tickler. They'd be wantin' ruffles on their shirt tails next.

Well, the F&D scientists are not trying to add ruffles to their occupational costumes, nor are they trying to impress the neighbors with their particularities. They're watching out for causes of gastric difficulties and such things. The most recent suspicious character brought in by the micro-analyst cops consists of fly-eggs in tomato products. Sure enough, tomatoes grow out of doors where flies have an uninhibited traffic right-of-way. But it's not quite that simple, for flies have no liking for tomatoes, even ripe ones, that are at the top of soundness and quality. It's only when the love apples start to descend the hill and develop that "general flavor of

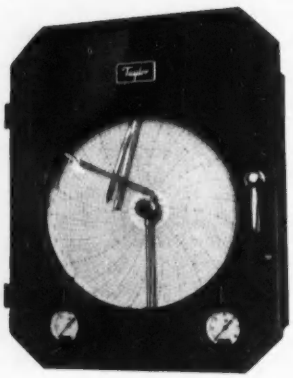
(Continued on page 50)

Famous Fallacies:

that Peas in a Pod are ALIKE!



ANSWER: Like a family of children, they vary in both size and quality. To grade them properly you need a Taylor Brine Density Control System or your pea grader*.



TAYLOR CONTROL GRADES PEAS AUTOMATICALLY BY REGULATING BRINE DENSITY!

YOUR grader equipped with this system, will grade peas efficiently and economically by the flotation principle. With this system the density of the brine is measured in a Sight Feed Bubbler by means of a Taylor High Accuracy Mercury Manometer. Any change in brine density in the grader is quickly detected and the Recording Controller opens *brine* or *water* valves to return it to the correct value.

Completely automatic control is obtained by the use of two throttling type control valves on the brine and water lines, both operated by the same Controller, but staggered so that only one can be opened at a time. Thus brine density can be *diluted* as well as *increased* as required, by simply adjusting the controller set point.

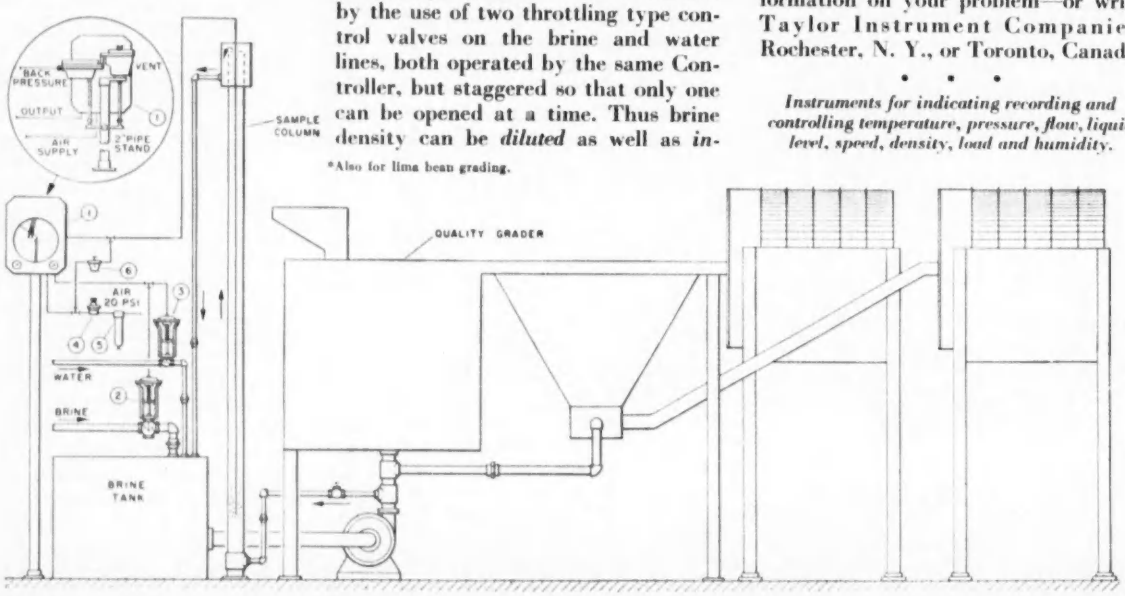
RESULTS: 1. The maximum yield of top quality peas — continuously and automatically. **2.** Salt consumption reduced to minimum requirement.

There is a Taylor Control System to help you cut costs and improve quality and efficiency in many phases of the food industry. Why not call in your qualified Taylor Field Engineer for specific information on your problem—or write Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada.

• • •

Instruments for indicating recording and controlling temperature, pressure, flow, liquid level, speed, density, load and humidity.

*Also for lima bean grading.



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One of America's Largest Can Manufacturers

PLANTS AT PHILADELPHIA, CHICAGO, ORLANDO • BRANCH OFFICES: NEW YORK, BALTIMORE, PITTSBURGH, ST. LOUIS

You CAN'T Buy Better CANS

People and Plants

F. H. Catterson

L. E. Clifcorn

Kevin Shea

A. B. Brackett

S. L. Rairdon

M. E. Bretschger

F. H. Catterson was appointed to the new position of assistant general production manager of the Amino Products division of International Minerals & Chemical Corp., Chicago. **R. M. O'Flyng** was named resident production manager of the division's San Jose, Calif. plant.

Dr. L. E. Clifcorn, director of Continental Can Co.'s fundamental research, was appointed chairman of the panel on food of the equipment and supplies committee on the Department of Defense research and development board. **Bruce W. Cook** was named eastern division sales manager of Continental's paper container division.

Dr. Kevin Shea, a member of the research staff at Kingan & Co., heads the Indiana Association of Food Technologists, Indianapolis. **Douglas Sherow,** Stokely-Van Camp, Inc., is chairman-elect and **George H. F. Schnakenberg,** Eli Lilly & Co., is secretary-treasurer.

Alfred B. "Al" Brackett has retired as manager of packaging research for the Birds Eye division of General Foods after 23 years of service.

Smith L. Rairdon has been named vice-president and director of marketing of Owens-Illinois Glass Co., Toledo. **Sidney F. Davis** will succeed Mr. Rairdon as division general sales manager.

Dr. Max E. Bretschger, formerly vice president of Buffalo Electro-Chemical Co., Inc., a subsidiary of Food Machinery and Chemical Corp., was elected president of the company, succeeding the late **Charles A. Buerk. Dale Davis** and **Sanford E. Larum, Jr.** were named, respectively, sales representatives for the Ohio valley and southern territories of FMC.

Harry E. Pounds was appointed to the newly created position of controller for Booth Fisheries Corp., Chicago.

Dr. Edgar P. Walls, professor of canning crops at the University of Maryland, retired recently. Many of Dr. Walls' former students manage or operate food processing plants in Maryland and neighboring states.

Herbert A. Stratford was made executive vice-president of the Morton Salt Co. at a recent meeting of the board of directors.

Geyer, Newell & Ganger, Inc. has been appointed marketing and promotion counsel of the **Can Manufacturers' Insitute.**

Claude H. Angstead, formerly with G. P. Halferty Co., Seattle salmon canners, has joined the sales staff of McGovern & McGovern, Seattle salmon brokers. **Harold Matchett,** formerly with Puget Sound Brokers, succeeded Angstead at the Halferty Co.

Thomas B. House has been appointed assistant secretary-treasurer of the Northwest Canners Association, Portland, Ore. He succeeds **A. L. Hobart** who resigned to join the cannery sales staff at the Yakima County Horticultural Union.

R. D. Junge has purchased Pacific Coast Products Co., Seattle, from **W. Ted** and **Herta Wolfheim.** The company name will be changed to Junge & Co., and new products will be added to the present food line of apple juice, cider, and vinegar.

Melvin Callison is the new manager of the Beatrice Foods plant at Clinton, Ill., succeeding **Ray Wilkinson,** who resigned.

The Pratt-Low Preserving Co., Santa Clara, Calif., fruit and vegetable canners, has appointed Dancer-Fitzgerald-McDougall, Inc., San Francisco, as its advertising agency.

R. Curtis Turner, former assistant manager of the Hawaiian division of the California Packing Corp., has been transferred from Honolulu to San Francisco, where he will assist vice president **G. R. Ward** in pineapple operations.

National Container Corp. has established a general sales office for Indiana with **James J. Glynn** as general sales manager.

Marion DuBois has been named Oregon district manager for Stokely-Van Camp, Inc.

J. Langrall & Bros., Inc., Baltimore, has launched Hopalong Cassidy Favorite sliced green beans, "chuck-wagon style," under an exclusive packing and distribution agreement covering the middle Atlantic area.

The United States Printing & Lithograph Co., Cincinnati, has acquired the label and wrapper division of The Meyercord Co., Chicago.

Dr. Edmund H. Hamann, chief chemist in charge of flavor research of Fritzsche Brothers, Inc., New York, recently completed the 25-year tenure of service that gains him membership in the firm's exclusive Quarter of a Century club.

Chas. Pfizer & Co.'s new Atlanta, Ga. warehouse was opened offically on September 23 with **John E. McKeen,** president and board chairman of the firm, and **Mayor William Hartsfield** of Atlanta cutting the ceremonial ribbon. The new building provides regional offices for Pfizer's antibiotic, bulk chemical and agricultural sales divisions, and more than 20,000 square feet of warehouse facilities.

Howard Fuhreman of Ft. Atkinson, Wis. has bought the 45-year-old Mayville (Wis.) Canning Co. Mr. Fuhreman said he plans to enlarge the pea and corn packing lines when he takes possession January 1.

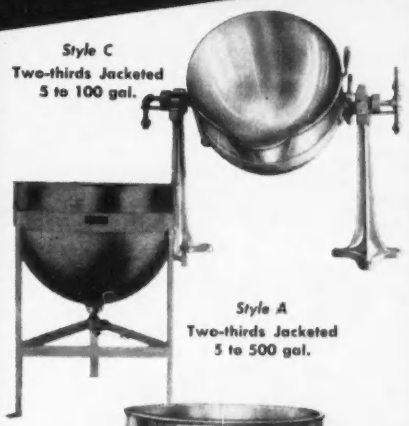
D. Paul Lynch was named manager of the raw products department of Comstock Canning Corp., Newark, N. Y.

W. Don Hooper was elected executive vice-president of Hunt Foods, Inc., Fullerton, Calif.

Joseph F. Rudolph, president of Dodge & Olcott, Inc., New York, died November 23 at the age of 55 after a short illness.

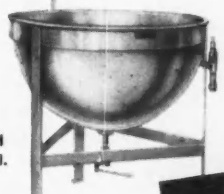
Clarence M. Frazier, 48, a director and vice-president of Food Machinery and Chemical Corp., died recently at his home in San Jose, Calif., after a long illness.

COOKING KETTLES



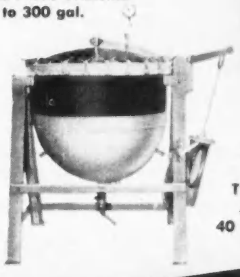
Style C
Two-thirds Jacketed
5 to 100 gal.

Style A
Two-thirds Jacketed
5 to 500 gal.



Style B
Full Jacketed
10 to 300 gal.

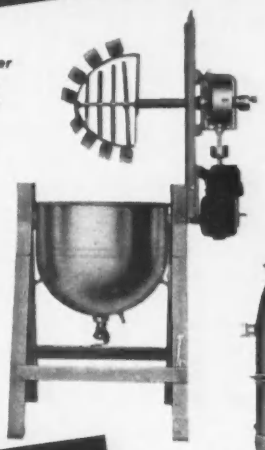
Style CW
Two-thirds Jacketed
80 to 300 gal.



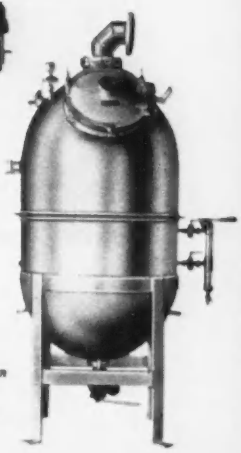
Pressure Kettle
Two-thirds Jacketed
40 to 200 gal.

MIXING AND BLENDING UNITS

CW3T
Center-line Scraper Agitator Kettle
80 to 300 gal.



A3T
Center-line Scraper Agitator Kettle
25 to 300 gal.



Vacuum Pan
50 to 500 gal.

these LEE Units

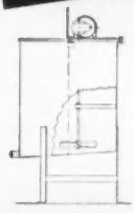
WILL REDUCE YOUR PROCESSING COSTS!

Quick Cooling Pan
50 to 200 gal.

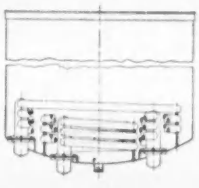
Individually designed for a specific processing operation and available in a wide range of sizes to fit your exacting requirements, Lee corrosion-resistant equipment is built to give you long years of peak performance with minimum maintenance.

Descriptive bulletins are available for any or all of the above units. Write for them today and discover how Lee can help reduce *your* processing costs.

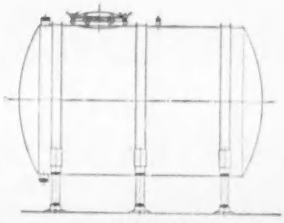
MIXING, COOKING & STORAGE TANKS



Mixing Tank
25 to 500 gal.



Pulp Tank
500 to 2,000 gal.



Storage Tank
100 to 5,000 gal.

LEE METAL PRODUCTS CO., INC.

408 PINE STREET, PHILIPSBURG, PA.

ALL LEE KETTLES ARE MADE TO A.S.M.E. CODE

RIGHT-DOWN-THE-LINE Standard-Knapp installation for can line, including inclined booster, 4-lane divider, can packer, case gluer and sealer.

FOOD PROCESSORS Right Down The Line... STANDARDIZE on STANDARD-KNAPP Equipment

Higher productivity is your goal and that is the end result achieved with Standard-Knapp automatic packaging equipment. You do not buy an S-K machine — you actually buy increased income.

By standardizing on Standard-Knapp equipment, you buy this additional income right down the line — you get more containers processed in less time, at less cost, with less trouble, in less space. And these savings are made where you need them most — in your packaging operations, the most costly phase of your production line manpower expense.

For can lines, Standard-Knapp provides Unloaders, Convergers, Dumpers and Unscramblers, Labelers, Boosters, Packers, Palletizers, De-palletizers, Case Gluers and Sealers, Case Printers, Markers and Stampers.

For glass lines, Standard-Knapp installs Unloaders, Convergers, Unscramblers, Rinsers, Labelers, Packers, Case Gluers and Sealers, Case Printers, Markers and Stampers.

STANDARD-KNAPP KNOW-HOW ADDED PLUS

Our engineering knowledge covers all phases of your packaging operations. We can help you in planning machine layout and integration. Our localized engineering, sales and service offices mean quick assistance on routine and emergency problems. Our continued development work keeps us in step with industry needs as they dictate higher speeds, more economy and improved quality control.

BENEFITS OF STANDARDIZATION AT A GLANCE

- **Higher Productivity** is assured with down-the-line use of Standard-Knapp equipment. Your line operates as a high speed unit, uniformly built to keep you moving at rated capacity.
- **Simplified Maintenance** is a basic feature of every S-K machine. This advantage is coupled with sturdiness of design, easy parts replacement, and precision construction. Maintenance schedules are simpler to follow. Downtime is reduced.
- **Greater Flexibility** is another benefit as every S-K machine is designed for quick changeover to the different package sizes within its capacity. And this flexibility applies right down the line when your line is Standard-Knapp.

FOR THE COMPLETE S-K STORY

write for catalogs describing machines for your industry to Dept. K, Standard-Knapp, Division of Emhart Mfg. Co., Portland, Conn.

Only the best is good enough

STANDARD-KNAPP

DIVISION OF EMHART MFG. CO.

PORTLAND, CONNECTICUT

SALES, ENGINEERING, SERVICE OFFICES > ATLANTA, BOSTON, CHICAGO, CLEVELAND, HOUSTON, LOS ANGELES, NEW YORK CITY, SAN FRANCISCO, SEATTLE, ST. LOUIS

International Salt Company's Industrial Engineers Will Show You How to

PROFIT BY THESE 4-WAY SALT SAVINGS

1. SAVINGS ON STORAGE by engineering the most efficient and compact salt storage system to fit your situation.

2. SAVINGS IN LABOR by reducing effort and supervision involved in salt or brine handling.

3. SAVINGS ON WASTE through accurate salt measurement and elimination of spillage and spoilage.

4. SAVINGS IN USE. Research and field work with hundreds of industries in many fields equip International to show you how best to utilize salt in your product processing—and for product improvement, too.

If your company uses salt, it will pay you to call on International Salt Company's Industrial Division.

Without obligation to you, this experienced staff of experts is at your service to inform you on latest salt developments in your field and to help on all phases of salt handling and storage, brine making, and salt and brine uses. They can help you save money four ways—and, on the record, the savings can be substantial.

A Complete Service

International Salt Company's Industrial Division is maintained as a service to industry by one of America's foremost salt producers.

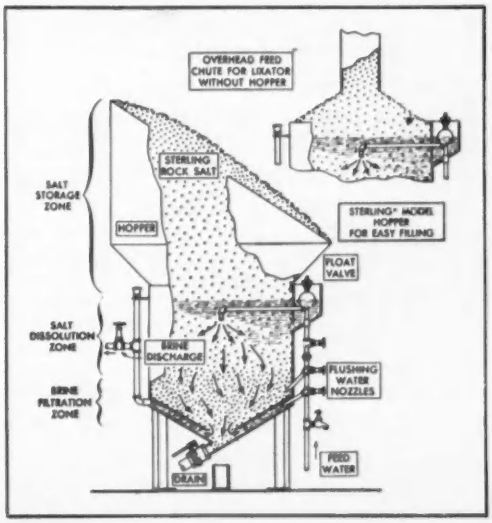
This company produces all types of salt and operates from strategically located mines and refineries. The scope of its operation necessitates familiarity with latest salt developments in every field, many of which have been pioneered by International Salt Company.

LIXATOR*—A NOTABLE EXAMPLE

The Lixator is one of International's outstanding advances in salt technology. Utilizing Sterling Rock Salt, the Lixate principle of self-filtration, invented and developed exclusively by the International Salt Company, provides a steady flow of pure, clean, fully saturated brine.

No handling or attention is required beyond the hopper-loading stage—gravity does all the work. The Lixate Process is adaptable to almost numberless industrial requirements, large or small.

*Reg. U. S. Pat. Off.



INTERNATIONAL SALT COMPANY, INC.

Scranton 2, Pa.

SALES OFFICES: Atlanta, Ga. • New Orleans, La.
Boston, Mass. • St. Louis, Mo. • Newark, N. J.
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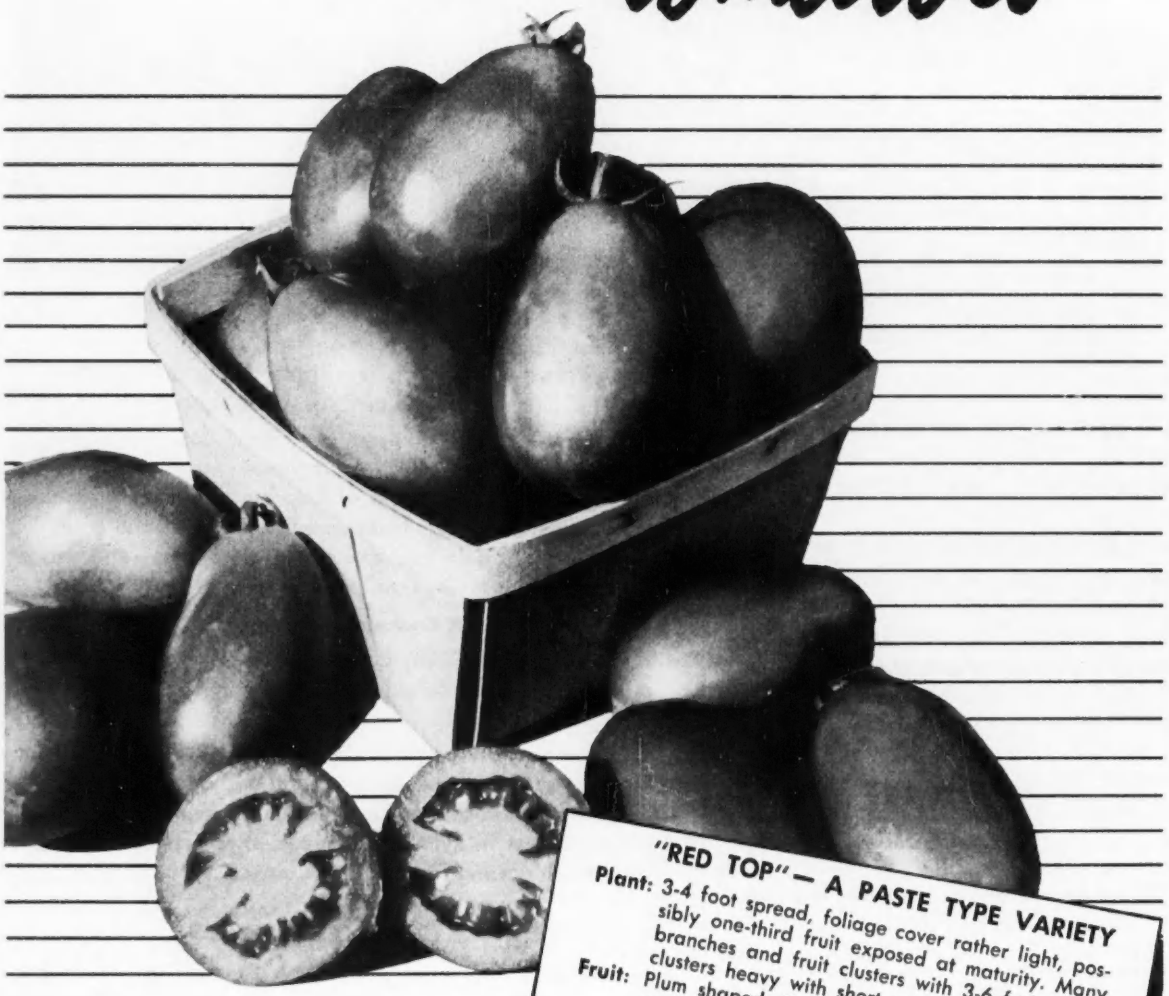
Philadelphia, Pa. • Pittsburgh, Pa. • Richmond, Va.

woodruff seed

FOR BETTER **PASTE** *tomatoes*



"RED TOP" — A PASTE TYPE VARIETY

Plant: 3-4 foot spread, foliage cover rather light, possibly one-third fruit exposed at maturity. Many branches and fruit clusters with 3-6 fruits. Fruit clusters heavy with short spurs.

Fruit: Plum shaped, 2-4 inches long (stem to blossom end) by 1-2 inches wide, deep red, solid, thick walled, remaining firm in good condition over long period. Fruit separates from stem easily, and is not susceptible to cracking.

Season and Use: Similar to John Baer and Red Jacket, second early. Used for solid pack, puree, soup stock, and juice blending.

Yield: About equal to standard varieties, 8-10 fruits to the pound.

F. H. Woodruff SEEDS

F. H. WOODRUFF & Sons, Inc.

Seed Growers

Milford, Conn., Bellerose, L. I., Salisbury, Md.,
Atlanta, Sacramento, Dallas, Mercedes, Tex., Toledo

JANUARY 1953

Food Packer

Vol. 34, No. 1

CANNING • GLASSPACKING • FREEZING

BETWEEN THE LINES

Indiana Canners Association, French Lick

(TOP) 1953 officers of the Indiana Canners Association, left to right: President, G. A. Turmail, Bluffton Foods, Inc., Bluffton; vice-president, T. N. Lyons, Morgan Packing Co., Austin; and (re-elected) A. F. Dreyer, secretary-treasurer.

(UPPER RIGHT) At the Heekin hospitality room, sitting: Mabel Schmitt, Decatur Canning Co.; Mrs. Bernice B. McLane, Milroy Canning Co.; Mrs. Morris Tobin, Milroy Canning Co.; and W. E. Butterfield, Butterfield Canning Co.; standing: Chas. L. Heekin; Roy A. Barton; Edward J. Nolan; and C. A. Rolfes, all of the Heekin Can Company, Cincinnati, Ohio.

(LOWER RIGHT) Three seedsmen meet, left to right: R. K. Bonnett, Washburn-Wilson Seed Co., Moscow, Idaho; Gordon Sternke, Rogers Bros. Seed Co., Idaho Falls, Idaho; and D. A. Rowe, Vaughan's Seed Co., Chicago, Ill.

Plant modernization completed

The Robinson Canning Co., Inc. (FOOD PACKER, November 1951) announces that its plant at Westwego, La., has now been completely modernized.

Among the outstanding features of the new plant are the following: A five-foot high band of light-directing glass blocks which encircles the entire building, providing the maximum in glare-free natural lighting. There are no conventional-type windows in the new building.

A ventilating system that provides a complete change of air in the building every minute—made possible by 10 industrial fans which move 215,000 cubic feet of air each minute.

This is the first shrimp cannery specifically designed and built to facilitate production of canned shrimp which have the back strip removed. This is known to the trade as "cleaned" or "de-veined" shrimp.

A new shrimp grader which was designed and built to company specifications and which permits high uniformity of pack. Seven grades are now packed instead of the five now normally used in the industry.

Iowa-Nebraska officers

The Iowa-Nebraska Canners Association elected the following officers recently at the association's annual convention:

President: John Martland, Green Giant Co., Vinton, Iowa (re-elected); vice-president: Ralph Day, Marshall Canning Co., Marshalltown, Iowa; and secretary-treasurer: Roy Chard, Audubon, Iowa (re-elected).

The Fairmont Canning Co., one of the nation's largest freezers, is featured in this issue. Page 24.

The Ohio Canners Association, Columbus

1953 officers of the Ohio Canners Association, left to right: President: Thomas Timmer, Tip Top Canning Co.; first vice-president: Russell Kline, Stokely Foods, Inc.; second vice-president: E. E. Richard, H. J. Heinz Co.; and secretary (re-elected): Paul Hinkle.

Fred C. Heinz, H. J. Heinz Co., and president of the National Canners Association (left) is shown here with Mrs. Paul Hinkle, wife of the Ohio association's secretary, and Mr. and Mrs. Myron C. Adams, Alger Food Products Co., Alger, Ohio.

(RIGHT) Newly elected officers of the Pennsylvania Canners Association, front, left to right: Vice-president: J. A. Hauser, C. H. Musselman Co.; president: A. Reed Hayes Jr., Mifflin County Packing Co.; vice-president: G. C. Lambert, Keystone Mushroom Co.; Back row: C. W. York, executive secretary; and directors Miss Helen Connor, Bloomsburg Packing Co.; Blain W. Hughes, Duffy Mott Co.; and H. H. Moulton Jr., Myers Canning Company. J. A. Shriver, B. F. Shriver Co., vice-president, and Miss R. M. Mears, treasurer, are not in the picture.

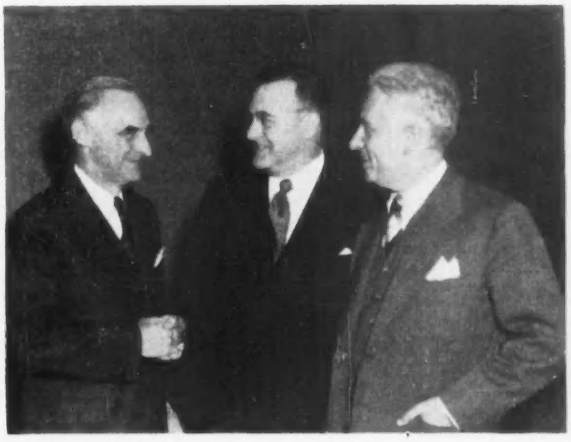
Newly elected officers of the Tri-State Packers' Association, sitting, left to right: First vice-president: W. E. Lamble Jr., Southern Packing Co., Baltimore; president: Glenn E. Knaub, P. J. Ritter Co., Bridgeton, N. J.; retiring president: S. E. W. Friel, S. E. W. Friel Co.; 2nd vice-president: H. J. Jarboe, Harrison & Jarboe, Sherwood, Md.; back row: E. D. Long, Long Bros., Westover, Md.; W. E. Wainwright, California Packing Corp., Swedesboro, N. J.; and L. W. Noble, Lee W. Noble Co., Preston, Md., directors.

Governor Alfred Driscoll (center) of New Jersey chats with other guest speakers at the Tri-State Packers' Association's annual meeting. Left to right are: Harold Jaeger, Geyer Advertising, Inc. and Can Manufacturers Institute; Glenn E. Knaub, P. J. Ritter Co. and the new president of the association; Gov. Driscoll; Miss Eugenia Hoffert, "Anne Marshall," home economist for Campbell Soup Co. and Samuel E. W. Friel, retiring president of the association, and co-owner of S. E. W. Friel Co.

New York State Canners & Freezers Association

New association officers are, sitting, left to right: President, W. W. Wilson, Silver Creek Preserving Co.; vice-president: F. J. Miller, Curtice Bros. Co.; vice-president and treasurer, D. B. Ingersoll, Halstead Canning Co.; and W. H. Sherman (re-elected), secretary; new board members, standing, are: M. E. Regan, Growers & Packers Co-operative Canning Co.; R. D. Waterman, Waterman Fruit Products, Inc.; B. G. Levin, East Pembroke Canning Corp.; and H. Stuart Hilton, Eastern production division, Birdseye Div. of General Foods Corp.

A scroll honoring Nicolas Appert, "Father of Canning," was presented to George Roux, vice consul of France (center), at the New York meeting. Shown here with Mr. Roux are, left to right: John C. Hemingway, retiring president of the association; Carlos Campbell, secretary of the National Canners Association; Mr. Roux; Fred C. Heinz, H. J. Heinz Co. and president of the National Canners Association; and Louis Ratzesberger Jr., The Illinois Canning Company and vice-president of the National Canners Association.



General Lucius D. Clay, chairman of the Board, Continental Can Co. (left), congratulates Walter W. Wilson on his election as president of the New York State Canners and Freezers Association, at the recent meeting in Buffalo. Rep. Kenneth B. Keating is at the right.

The W. J. Stange hospitality room, sitting left to right: Mr. and Mrs. I. (Spike) Miller and Mr. and Mrs. Harold Newman, all of the I. Miller Pickles, Inc., Brocton, N. Y.; standing: Phil E. Jones and David S. Nay, The W. J. Stange Co.

In the White Cap Co.'s hospitality room, left to right: L. S. Wolcott and Mrs. Samuel K. Wolcott, Seneca Grape Juice Corp.; Mr. and Mrs. I. Greenwood, Home Style Food Products Co.; John Swift, White Cap Co.; and Dr. A. H. Gourley, Birds Eye Div., General Foods, Inc.

The Chisholm-Ryder Co. hospitality room, sitting, left to right: Victoria Furber, Helen Tobin, and Mrs. Robert Tobin, Victor Preserving Co.; standing: Mr. and Mrs. A. F. Wentzel, Chenango Foods, Inc.; B. E. Brewer, Chisholm-Ryder Co.; Robert Tobin, Victor Preserving Co.; and Mrs. B. E. Brewer, Chisholm-Ryder Co.

The new continuous freezer at the Winnebago plant of the Fairmont Canning Co. This machine, which has a capacity of 175 cartons a minute, is demonstrating a high rate of efficiency and low cost per unit of food frozen. Only one operator is needed to operate the machine.

The Fairmont Canning Company — custom freezers of vegetables

This famous Minnesota company is noted for hard-hitting management, high labor efficiency, quality products, and participation of employees in day-to-day operation

BILL SCHAAL, Editor

A WORKING TRIUMVIRATE of "management, men, and machines" has made the Fairmont Canning Company one of the largest and most successful freezing and canning plants in the nation.

The company, located in the fertile and gently rolling lands of southwestern Minnesota, pioneered in the belief that a closely knit and coordinated management staff is essential for any profitable operation. Moreover, Fairmont's officials believe that their governing power is more effective in day-to-day operation if employees play an active part in the management as members of committees.

This system is paying off, too. The Fairmont Canning Company has a consistent and durable reputation as packers of quality frozen and canned foods. Management and supervisory personnel and the nearly 2,000 plant employees work together efficiently and harmoniously. All-important fire and safety records are enviable from an industry standpoint. Also, plant officials are constantly at work devising and installing new labor-saving devices and systems to make easier the work of all. In short, wherever you look, you see clean, efficient food processing in action, with all operations moving ahead smoothly.

The Fairmont Canning Co. started in the canning business in 1920. Five years later, company officials astutely envisioned the tremendous potential in food freezing and started freezing on a small scale. They gradually added more facilities through the subsequent years until they were freezing more raw produce than they were canning.

Today, the great bulk of their business is in the custom freezing of vegetables—peas being the biggest item—for prominent name brands in the industry. Their own brands, Eton and Frigidettes, are well-known and have wide distribution, however.

They operate three plants: Freezing plants in Fairmont and Winnebago, Minn., and a canning plant in Fairmont. The latter plant is devoted primarily to specialty products: Mixed peas and carrots; Saladettes, a mixed and spiced vegetable salad; pepper corn; succotash; pumpkin pie mix; and occasionally whole kernel corn.

Management staff

A. F. Wentworth, president, Mrs. E. M. Wentworth, secretary-treasurer, and the following people make up the management staff of the Fairmont Canning Co.: C. J. Meister, executive vice-president; H. E. Blesi, raw products supervisor and in charge of all agricultural operations; E. W. Eickelberg, in charge of research and quality control and a member of the company's permanent planning corps; T. A. Fleming, sales manager; and Robert J. Hilgers, chief chemist and quality control supervisor. Hilgers and a staff of inspectors continuously check and inspect all products as they are being packed. The company believes that quality control is an all-inclusive operation, including, in addition to the actual inspection of the packing lines, variety selection and evaluation, grading raw products, plant sanitation, and periodic inspection of the products after they are packed. "Quality is the key to our product acceptance by the consuming public," is the way Dr. Eickelberg explains it.

During the packing season, management people meet daily with plant managers, the personnel director, cost coordinator, comptroller, engineers, sales people, and purchasing agents. Also included in these meetings as the need arises are heads of the fire and safety committees. Current problems are laid bare before the entire group, and before the meeting is concluded, each participant has a clear picture of what is presently being done and what should be done, and knows plans for the next day's operation.

Also during the pack, noon lunches are served to various management members from the experimental test kitchen in the main plant. This gives them another opportunity to meet, and at the same time it enables them to test new recipes that may be pre-

Palletized lug boxes of peas are quickly unloaded at the plant by women-operated lift trucks. The boy on the truck is taking samples for tenderometer readings. Labor-saving devices that lead to more efficient handling of food are numerous at Fairmont's plants.

Here is one of the eight Key flotation cleaners in operation in Fairmont's plants. Installation of these cleaners has made it possible to cut down the number of women on the picking tables from six to two. Fairmont officials consider these a good investment.

pared from time to time by Fairmont nutritionists.

At least once a year all plant operations are broken down and analyzed critically for efficiency. The main consideration here is how many employees and man-hours are involved in a particular operation. Diagrammatical maps are made up for each operation, with pins representing employees and their location in the plant. Then the cost coordinator prepares a man-hour report that shows average production per man and the number of man-hours it took to obtain this production. The result has been a considerable saving of man-hours in many of the plant operations. This careful analysis paid off in 1952, for instance, when the company was able to reduce its labor force 20 percent as compared with 1951, and at the same time increase the number of pounds packed per worker.

Nowhere throughout the plant is this system more in evidence than in the pea-freezing operation. You simply don't see a vast army of people handling peas either in the field or in the plant.

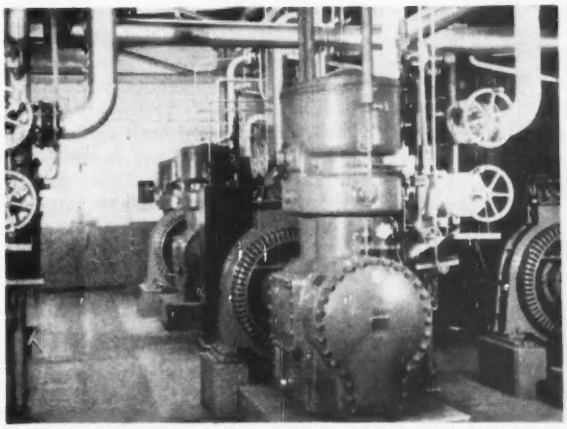
The company has 48 viner stations in seven Minnesota counties, with four Hamachek viners at each station. About 10 percent of the land used for growing peas is owned by the company. The bulk of the peas is grown under contract. "Farmers plant the crop, and that's all," says Mr. Blesi. "We furnish all supplies and equipment and determine the maturity. Thus, we have control of the crop at all times."

Pea vines are cut and loaded with a Hume pea harvester and loader and are hauled not more than five miles to one of the viner stations. Fork-equipped tractors push the vines up to the viners. Tractors also stack the hulled vines, thereby replacing three men on the silage stacks. As the peas are vined, they are loaded into lug boxes, which are immediately palletized on trucks. "We're completely mechanized considering available equipment," Mr. Blesi says.

As the trucks loaded with the palletized boxes back up to the plant ramp, women-operated lift trucks move up to either side of the truck, quickly take off a load of boxes and carry them to the boot conveyors in the plant. All Fairmont's lift trucks are operated by women.

The vertical conveyors carry peas to the Huntley clipper mills where the dry foreign material is removed. The peas then are washed in either Olney or Berlin Chapman washers. At this point, peas that are heavy with thistle or other debris are sent through Key flotation cleaners. Inside these cleaners, the peas pass through an emulsion

Part of the refrigeration equipment at the Fairmont plant. This installation can produce 950 tons of refrigeration in 24 hours. The equipment at Winnebago produces 550 tons of refrigeration in 24 hours.



Lloyd K. Sankey, food grader (left), E. W. Eickelberg, research and quality control chief, and Chief Chemist R. J. Hilgers, evaluate samples of food taken from the previous day's operation.

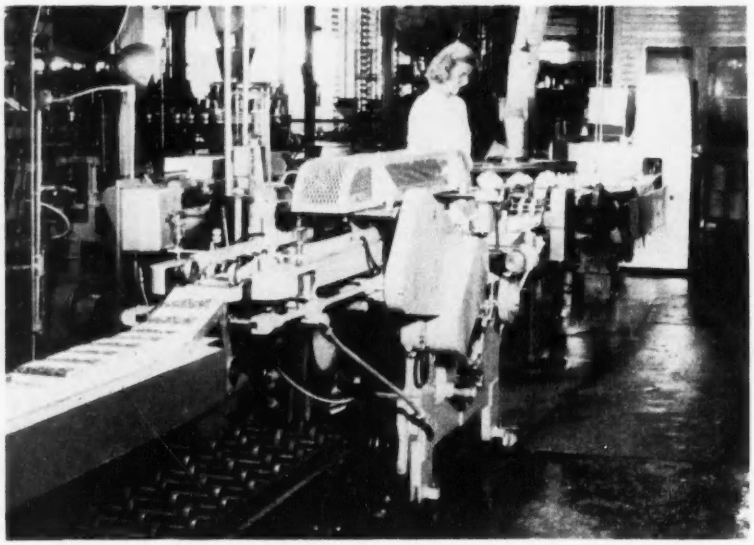
of odorless and tasteless oil and a highly refined emulsifying agent. These materials cause air bubbles to become attached to foreign material such as thistle buds, and the buds are raised to the top for removal. The peas are selectively wetted and sink to the bottom of the cleaner where they are removed and washed in fresh water. Dr. Eickelberg says these cleaners are one of the best investments in the plant, and have permitted a reduction of women at the sorting tables from six to two.

Another great labor saver enters the picture here. If more peas are coming in than can be handled, the surplus is removed to a chill room, maintained at 35° F. The peas are placed in hoppers that hold about a ton each, 33-degree water is used to flume the peas into these hoppers.

Peas can be kept in this room in fresh condition for 17 to 24 hours. It is particularly useful during extremely hot days, when peas can be quickly chilled, if necessary. Or, during the busy season, viners may operate on Sunday, and the peas are stored in the chill room over night. This allows the plant to start operating early Monday morning before peas start coming in from the viners.

Peas are pumped from the chill room in chilled water through either Berlin Chapman or Sinclair Scott pumps. They pass through a dewatering screen and the water is returned and used again.

From either source (direct from the boot conveyors or chill room) the peas go to inspection tables. As pointed out previously, only two women sit at each table. The peas go to FMC blanchers from the tables, and then pass through Fairmont-designed cooling flumes. They are dewatered and sent through either FMC or Chisholm-Ryder quality graders.



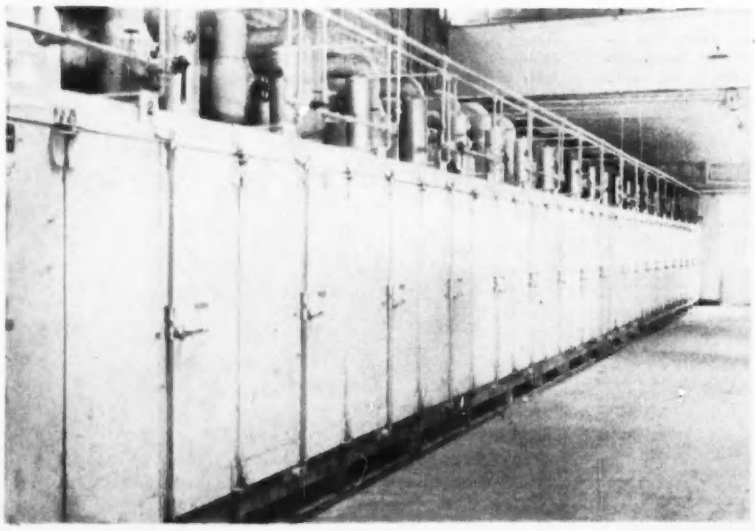
The Klik-Lok carton former and closer in operation at the Winnebago plant. This machine is connected with an FMC filler and a Battle Creek automatic wrapping machine.

Here, it's necessary to describe the freezing operations at both the Fairmont and Winnebago plants. The progressive-minded staff is at present evaluating several different filling and packaging lines, to test the speed and labor-saving features of each.

At Fairmont, peas that eventually end up in bulk packages or institutional-sized packages are conveyed into tunnel freezers. They are carried through on wire mesh belts where they are quick-frozen in 14 minutes at minus 30° temperatures. Then they are discharged into 1,000-pound hoppers from where they are packaged and taken to the zero storage.

Peas that are to be packaged for retail use are discharged into five Ayars fillers, filed into cartons made by the Waldorf Paper Products Co., and the cartons are closed on Waldorf closers. They are wrapped in a Battle Creek wrapping machine, and then wheeled to the battery of 26 plate freezers where they remain for 90 minutes at minus 42°. Each freezer contains 20 plates and has a capacity of 1,350 cartons. The packages are then put in zero storage.

Part of the battery of 26 plate freezers at the Fairmont plant. Immediately after retail-size cartons are wrapped, they are frozen here. Each unit handles 1,350 cartons at a time.



New continuous freezer

At Winnebago, the company recently installed a new FES-Patterson continuous freezer. This machine was made by Freezing Equipment Sales, Inc., and is one of the three machines of this type now in use in the United States.

After the peas are blanched and inspected, they are conveyed to a dewatering vibrator made by the Selectro-Vibrator Products Equipment Co. Next they are conveyed to the Mara-Pak filler and boxer which operates at a speed of 150 10-ounce packages per minute. The cartons flow into the Battle Creek Model 51 Continuous-Flow wrapping machine which wraps cartons at a speed of 154 a minute—running slightly faster than the filler. Gravity takes the filled cartons down an incline to the entrance to the continuous freezer.

(Continued on page 34)

N. C. A. and C. M. & S. A.

Canners & equipment suppliers have worked together for profit & progress

National Canners Association president reviews early development and progress of canning machinery and supplies at the annual meeting of the New York State Canners and Freezers Association in Buffalo

I STAND ON THIS PLATFORM as the 40th president of the National Canners Association. That puts me in a direct line of descent from a New York state canner—George G. Bailey, of Rome, N. Y., the very first president of the N.C.A. Any representative of N.C.A. in coming to Buffalo is making a pilgrimage to the cradle of the National Canners Association, for it was in this city that the famous merger of two regional associations into the national organization took place in 1907.

The year 1952 has truly been a year of history in our industry. Nicolas Appert, "The Father of Food Canning," was born 200 years ago last October 23, as all of you know who read the newspapers, listen to the radio or watch TV.

Down at N.C.A. headquarters we had a ceremony, and as president of N.C.A. I had the honor of persenting a scroll to M. de Juniac, minister of the French Embassy. The scroll expressed the debt the world, the United States and the American canning industry owes to the discovery that Appert made.

I was impressed with the remarks M. de Juniac made in accepting the scroll. Among other things he said: "If one is to appreciate fully what the industry, of which you are the managers, means for the well-being of the people, it is difficult to know how much one is indebted to the inventor of the process, and how much one owes to those who applied his invention, *who perfected it*, and who gave it the quality and development it has reached today."

So it is largely the application of our management skills, our scientific bent and mechanical aptitude, that made the canning industry great and important, and enabled its great civilizing effects to be extended to millions of people. We have a right to point with pride to the result—more

FRED C. HEINZ

Vice-president of the H. J. Heinz Co. and president of the National Canners Association

healthful and nutritious foods available in cities and on farms, freeing housewives from drudgery, aiding in explorations, narrowing frontiers, winning battles, conquering the elements and the seasons—in short, what the Encyclopedia Brittanica calls *"the greatest* of all inventions in historic times."

Here in New York State, I want to pay tribute to the great contribution that has been made by our good friends and allies, the machinery and supply people. The historians sometimes overemphasize the impetus given to canning by wars. Canning indeed was a war baby, born during Napoleon's struggles with most of the nations of Europe, and it is true that our Civil War, and the World Wars of this century resulted in spectacular increases in canned foods production. It is a tribute to canned foods that governments in such emergencies recognize the safety, utility and healthfulness of our products, and that usually the armies that have the most canned foods are the victors. It is a tribute also that the taste for canned foods engendered in these fighting men is carried back into their civilian eating habits. Each war, to be sure, has created vast new numbers of canned foods consumers.

But I prefer to think that, while less spectacular and dramatic, the sound and steady growth of canned foods consumption and production is really established between wars, when canners and their machinery and supplymen can apply their inventiveness and skill in workshop, and laboratory and cannery, to build improved equipment and to create more efficient methods and tools.

Post Civil War era

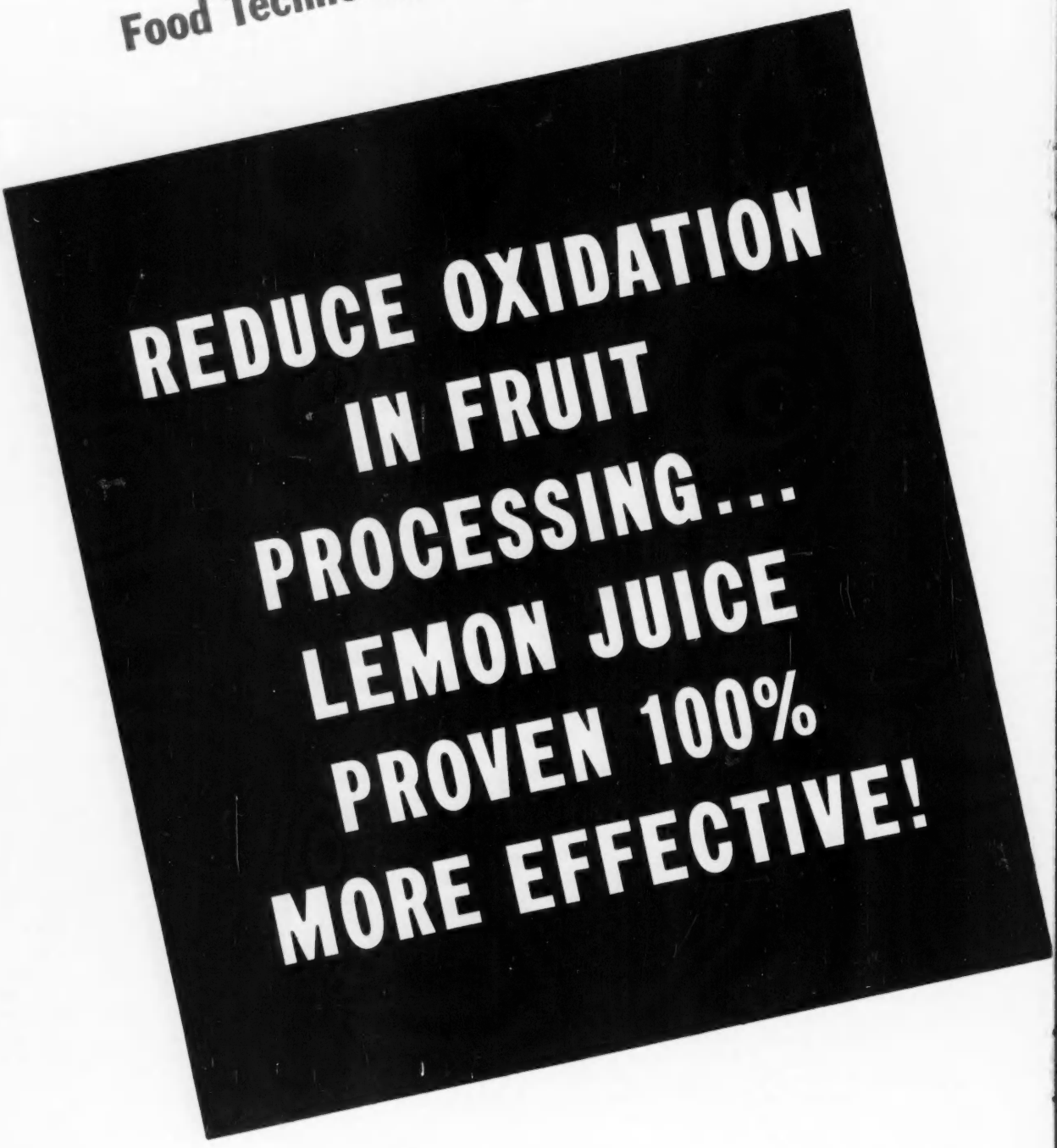
Since we are dealing with canning history, I like to look at that important period that began with the close of the Civil War. That era was characterized by numerous mechanical developments and inventions, each of which helped put canning on a progressive, mass-production basis. Many of these achievements were revolutionary and basic to what we do today.

There was the invention of the cannery retort, or pressure cooker; for salmon canning there was perfected an automatic device to clean and trim the fish; for corn, special machines to husk the ears, free them of cornsilk, and cut kernels off the cob: for tomatoes, machines that could wash, scald, peel and fill; for peas, devices that would remove the entire pea vine from the ground and shell the peas without picking pods. From the pioneer machinery men of those days came also refinements in the speed and accuracy of machines to fill the various foods into cans or glass jars, and ingenious conveyors to move the raw food, cans, jars, and other supplies from stage to stage of the processing line.

These were vital contributions of our good friends in the machinery field, without which the canning industry could not have expanded as it did. Most pre-Civil War canning was done on the eastern seaboard. The first inland canning took place in upstate New York, when the Edgett Brothers started their business in Camden, N. Y. Thus to the Empire State goes the credit for the impetus to can where the crop is grown, one of the prime factors of canned foods quality in America.

(Continued on page 46)

Food Technologists Attention!



4 ADDED benefits at ½ the cost!

The problem of "browning" and flavor loss that every fruit packer knows has now been greatly reduced. Latest research into the anti-oxidant properties of lemon juice has revealed startlingly effective qualities heretofore unexplored.

Lemon juice is a *natural* anti-oxidant. When used in processing, higher quality levels are obtained. The *full* flavor of your fruit is held and, in fact, sharpened, and the fruit also retains more of its natural color. Off-flavor development is retarded or completely eliminated. You'll be turning out a finished product with flavor *freshness.*

The secret of this newly-discovered superiority lies in the fact that when you use EXCHANGE Lemon Juices you get the *full* unrefined values of their citric and ascorbic acid content, PLUS the additional benefits found *only* in the natural, unprocessed fruit product.

- **Lemon juice contains natural bioflavonoid anti-oxidants for more effective preservative action.**
- **Lemon juice is a buffered system which permits a great range of dilution.**
- **Lemon juice has a low surface tension which accelerates penetration.**
- **Lemon juice has a delicate aroma and subtle taste that improve all fruit flavors.**

And in *addition* EXCHANGE Lemon Juice is *cheaper* to use than the anti-oxidant you're now using! In solution, ounce for ounce, lemon juice is *equally effective* as anti-oxidants *costing over twice as much!*

Use EXCHANGE Lemon Juice in just one production run and prove to yourself its superiority. Or write us for detailed analysis of its amazingly effective anti-oxidant properties.

EXCHANGE Lemon Juices are all made from fine lemons from the groves of sunny California. They are packed four different ways for your production needs:

EXCHANGE Single Strength Lemon Juice (with 1% benz.)—in barrels.
EXCHANGE Single Strength Lemon Juice—pure—in gallon tins.
CALEMONA Concentrated Lemon Juice—in gallon tins or barrels.
CAL-GROVE Frozen Single Strength Lemon Juice—in gallon tins.

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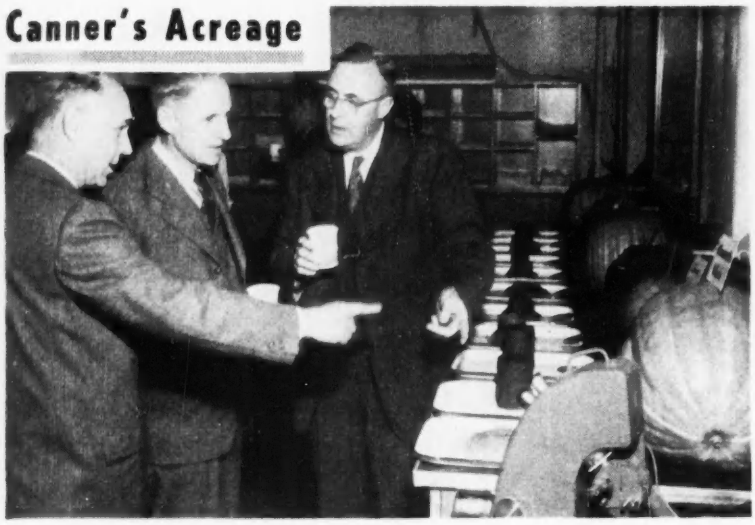
Canner's Acreage



Eleven varieties of raw and canned pumpkin and squash are compared for varietal differences at the fall meeting of the Ohio State University's Institute of Nutrition and Food Technology. Discussing the varieties are, left to right: Dr. H. D. Brown, head of food processing at the University; Dr. O. C. Woolpert, director of the Research Foundation; and Dr. J. B. Brown, director of the University's Institute of Nutrition and Food Technology.

New Jersey Station develops three new blueberries

Three new blueberry varieties, all considered equal or superior to varieties now being grown in the same seasons, have been introduced by the New Jersey Agricultural Experiment Station.

They are Earliblue, an early variety; Bluecrop, a mid-season variety; and Herbert, a late variety. They are expected to further improve the cultivated highbush blueberry industry in New Jersey, according to Dr. W. H. Martin, Station director.

Work on these new varieties dates back to the early thirties when the original crosses were made. Since then they have been tested extensively in New Jersey, at Beltsville, Md., and at other points by George M. Darrow and Donald H. Scott of the U. S. Department of Agriculture and Gene J. Galletta of the New Jersey Station. Dr. Darrow points out that the new varieties, together with Berkeley and Coville which were introduced in 1949, provide New Jersey growers with a succession of highbush blueberries of larger size and better flavor than most of the older varieties, and covering the entire season from early to late.

Information on where to obtain plants of the new varieties can be obtained from Gene J. Galletta, New Jersey Agricultural Experiment Station, New Brunswick, N. J.

Northrup, King & Co. has new vegetable list

Northrup, King & Co., Minneapolis, Minn. and Boise, Idaho, has recently published a revised descriptive list of vegetables and flowers handled by the company. Included in the list is useful planting information for almost any vegetable grown.

Get Mexican bean beetles as they hatch

One or two applications of a one percent rotenone dust applied as the eggs are hatching are usually sufficient to stop Mexican bean beetle, provided the dust reaches the under sides of the leaves where the young grubs are feeding.

Eggs begin hatching by mid-July and the newly hatched grubs make this pest the number one insect enemy of the bean grower, declare entomologists at the New York State Agricultural Experiment Station at Geneva.

A one percent parathion dust also gives excellent control, but this material must be used with caution, warn the entomologists. A parathion spray containing one pound of 15 percent wettable parathion in 100 gallons of water, or four pounds of ground cube root plus two pounds of skimmilk powder or some other spreader in 100 gallons of water, also has proved satisfactory in Station tests.

Injury from Mexican bean beetle shows up on the foliage in a lace-like pattern caused by the feeding of the grubs and adults on the green tissue between the veins of the leaves, it is explained. The adults resemble large ladybird beetles and the larvae or grubs are bright orange. The eggs also are conspicuous as bright orange-colored clusters on the leaves.

Researchers seek disease-resistant spinach

A cooperative research project designed to develop spinach varieties resistant to white rust disease, a disease that can wipe out the spinach crop of an entire state, is being conducted in Texas, American Can Co. announced.

"Under certain conditions of temperature and moisture, white rust can wipe out the spinach crop of an entire state, as it did in Texas in 1950," said Dr. Roger H. Lueck, general manager of Canco's research and technical department. He added that "the only way to prevent rust is to develop a plant resistant to it."

The effort to develop varieties of spinach which not only are rust resistant but also have superior quality and yield larger crops is being conducted at the Agricultural Experiment substation at Winterhaven, Texas, under the joint sponsorship of the California Packing Corp., American Can Co., the Missouri Pacific Railroad, and the U. S. Department of Agriculture.

"The studies at Winterhaven are designed to benefit growers, the entire spinach packing industry, and consumers of the project," Dr. Lueck said. "Results of the plant breeding experiments will be made available to all interested persons through the Department of Agriculture."

The economic importance of the nation's spinach crop to farmers and packers is shown by the fact that 6,742,000 cases of spinach were canned during 1951; an additional 97.9 million pounds was packed as frozen foods.

Wisconsin beet pack

The Wisconsin Canners Association reports that the 1952 pack of beets in the state totaled 3,026,820 actual cases as compared to 3,464,886 actual cases a year ago. Figures are based on reports from all 17 companies that packed beets in Wisconsin the past season. Nearly two-thirds of the pack, 1,943,546 cases, were of the 303 size. By style, Wisconsin packed 748,619 cases of whole beets, 383,667 cases of cut beets, 1,363,580 cases of sliced beets, 364,923 cases of diced beets, and 166,031 cases of shoestring.

A NORTHRUP KING NK BULLETIN

Seed Service

NEW PICKLE RESISTS MOSAIC

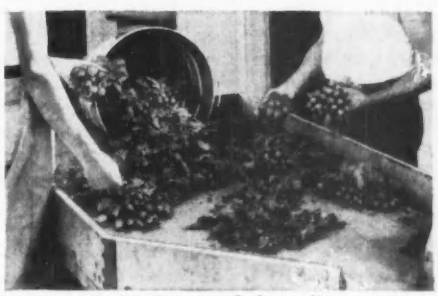
MR 17 proves to be answer to costly mosaic virus

Good news for pickle packers! The cooperative efforts of Ohio State U. and the H. J. Heinz Co. have resulted in a cucumber that resists mosaic. Called MR 17, this new pickle is a sister line to Yorkstate Pickling.

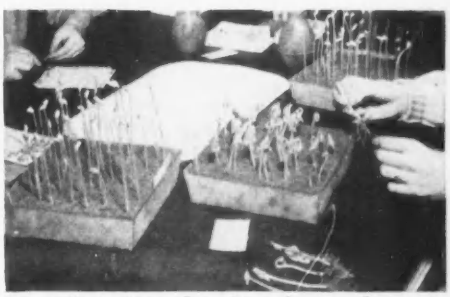
Vital statistics: Fruit—slightly longer, slimmer and darker than National Pickling. Vine—large, coarse, dark green; stays vigorous until killing frost. Tests show MR 17 to be an excellent yielder.

Try Northrup King's strain of MR 17 next season. Order from your NK representative, or write to us.

NK's strain of MR 17 makes an outstanding pack in every way.



Scientific selection and breeding are responsible for constant improvement in Northrup King strains.



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Characteristic handling of the name "Beardsley" makes frozen codfish cakes package easy to identify with other Beardsley products. Package gives clear explanation of the content.

Quality in package design helps sell a quality product

New frozen codfish cakes receive good consumer acceptance: here are the reasons

PUTTING A BRAND NEW product on the market presents special problems in package design, according to Jim Nash, New York industrial designer. For instance, in designing the package for J. W. Beardsley's Sons' frozen deep fried bite-size codfish cakes, he had to accomplish two objectives: telling the shopper at a glance what the product was, and creating enough appetite appeal to overcome the consumer's resistance to something new and unknown.

He attacked this problem from two angles. First, he used the characteristic handling of the name "Beardsley" used on other products manufactured by the Newark, N. J. firm which already had consumer acceptance. This characteristic design element, a wide red band around the package with a large "B" formed from it and the other letters of the name "Beardsley" spread alongside the "B", makes the new product easy to recognize and to identify with other Beardsley products.

Second, he stimulated appetite appeal by having the codfish cakes well reproduced on the wrapper (manufactured by Marathon Corporation, Menasha, Wis.) "The clean, appealing appearance of the package assisted the salesmen in getting buyers to stock the product. The complete explanation of the contents also was an aid," Mr. Nash said. "Buyers are influenced by packages that have good display value and a straightforward sales message."

Because it was a new product, especially in form, the company and designer felt it was essential to explain the product in easily read type and to show an actual illustration. "There can be a wide difference of opinion about what is 'bite-size'," Mr. Nash said. "Therefore, we showed one of the codfish cakes in actual size."

Package gives information

The package tells consumers exactly what the product is: There are 20 quick frozen individual bite-size cakes; they look like the illustration; they are deep fried, ready to heat and serve; and when served they look like the picture on the box. On the back of the package there are instructions for preparation and a list of other Beardsley products.

"We felt that such a straightforward presentation of the facts," Mr. Nash said, "with appetite appeal to introduce the new type product would help compensate for the consumer inertia towards the unknown."

Mr. Nash created the basic design of other Beardsley labels some years ago. The shape of the present package is identified in the consumer's mind as a fish package because it is used extensively for frozen fish products, according to Leonard Beardsley, vice president of the company. The carton holds exactly the eight ounces of product Beardsley's wished to merchandise. The problems involved—getting the correct proportion for the new package and deciding on the type of vignette—were comparatively easy, Mr. Beardsley said. "We left the decision as to the vignette in Mr. Nash's hands." But the company did recommend that a replica of one of the fish cakes be shown separately to permit the consumer to see exactly what she was buying, and to let her judge for herself how many 20 fish cakes would serve.

Chose bite-size cake

The bite-size cake was chosen in preference to the conventional large cake to enable Beardsley to offer something different. These frozen deep fried codfish cakes are made mainly from a blend of SHREDDED (the company's trade mark) codfish and potatoes. For more than 60 years Beardsley's had been producing SHREDDED codfish, leader in its field and used by the housewife principally for making codfish cakes.

Some 30 years ago Beardsley's offered the housewife a more convenient way to make fish cakes, a canned prepared fish cake, which saved her the trouble of cooking her own potatoes. She merely had to form and fry the new product. In the fall of 1951, the firm took the next and final step in providing the finished product for the housewife. They prepared the new fried and frozen fish cake which needs only 10 to 15 minutes heating in the oven.

These fish cakes have been on the market along the Atlantic seaboard since then. Consumer acceptance has been gratifying, according to Mr. Beardsley, because the consumer, he said, is looking for a meal that tastes good and is easy to prepare. "The convenience factor of the product was in our favor," Mr. Nash said.

J. W. Beardsley's Sons was founded in 1857. The company has remained in the hands of the founder's descendents and is now being operated by the fourth generation. Besides the frozen deep fried codfish cakes, SHREDDED codfish and prepared codfish cakes, the

(Continued on page 49)

If your PRODUCT is listed here—you should have a copy of CAMPBELL'S BOOK

- Apples
- Apricots
- Blackberries
- Blueberries
- Cherries
- Cranberries
- Currants
- Gooseberries
- Grapefruit
- Grapes
- Loganberry
- Peaches
- Pears
- Pineapple
- Plums
- Prunes
- Quinces
- Raspberries
- Rhubarb
- Asparagus
- Beans (Snap)
- Beans (Lima)
- Beets
- Carrots
- Cauliflower
- Corn
- Okra
- Onions
- Peas
- Chili Peppers or Pimientoes
- Potatoes
- Pumpkin
- Sauer Kraut
- Spinach
- Succotash
- Sweet Potatoes
- Tomatoes
  - Products
  - Paste
  - Puree
  - Catsup
  - Chili Sauce
- Baby & Junior Foods
- Boston Baked Beans
- Juices
  - Apple
  - Grape
- Canned Soups
  - Asparagus
  - Bean
  - Beef Bouillon
  - Beef Broth
  - Consomme
  - Cream of Celery
  - Cream of Corn
  - Clam Chowder
  - Chicken Soup Stock
  - Chicken Bouillon or Broth
  - Chicken with Noodles
  - Old La. Chicken Gumbo
  - Mock Turtle Soup
  - Cream of Mushroom
  - Oxtail Soup
  - Okra
  - Soya Milk Stock
  - Oyster
  - Green Pea
  - Scotch Pea
  - Pepper Pot
  - Cream of Potato
  - Cream of Spinach
  - Cream of Tomato
  - Vegetable
- Spaghetti
- Canned Meats
  - Corned Beef
  - Corned Beef Hash
  - Luncheon
  - Hamburger
  - Beef & Pork Sausage
  - Meat & Veg. Stew
  - Meat Balls & Spaghetti
  - Meat and Noodle Prod.
  - Beans with Frankfurters
  - Ham & Lima Beans
  - Chili Con Carne
  - Beef or Pork Tongues
  - Paste Type Products
  - Bacon
  - Beef, Veal or Mutton
  - Beef & Gravy or Pork & Gravy
  - Chicken Products
  - Beef Stew
  - Lamb Stew
  - Irish Stew
  - Brunswick Stew
  - Pork Luncheon
  - Spiced Ham
- Canned Chicken & Chicken Products
  - Chicken Stewed
  - Roast
  - Fricassee
  - In Pieces
  - Chicken A La King
  - Chicken & Noodles
  - Diced Chicken
  - Chicken Sandwich Spread
  - Deviled Chicken
  - Potted Chicken
  - Chicken Giblets
- Jellies
  - Apples
  - Currant
  - Grape
  - Quince
  - Pectin Fruit
  - Imitation Fruit
  - Gelatin
  - Agar
- Jams & Preserves
  - Apricot
  - Cranberry Sauce
  - Peach
  - Raspberry
  - Strawberry
  - Pectin Fruit
  - Imitation Fruit
- Butters & Marmalades
  - Apple
  - Peach
  - Apricot
  - Prune
- Mfg. Marmalades
  - English Seville Orange
  - Ginger
  - Grapefruit
- American Orange
  - Tangerine
  - Lemon
- Crushed & Glazed Fruits
  - Strawberries
  - Pineapple
  - Maraschino Cherries
- Fruit Juices
  - Sweet Cider
  - Concentrated Cider
  - Grape
  - Orange
  - Lemon
  - Cherry
  - Rhubarb
- Pickling
  - Cucumbers
  - Cauliflower
  - Green Tomatoes
  - Peppers
    - Green, Red
  - Chopped Cabbage
  - Cabbage Cores
  - Dill Herb, or Weed
  - Onions
  - Wax Beans
  - Mango Peppers
  - Watermelon Rind
  - Cantaloupe
- Misc. Sauces
  - Horse Radish
  - Soya
  - English Beefsteak
  - Worcestershire Or Worcester
  - Calcutta
  - Beef Relish
  - Lobster
  - Russian
  - Olivenaise
  - Thousand Island
  - Tartar
  - Canadian Club
  - Fruit Salad Dressing
  - Pepper
  - Tobasco
  - Walnut Catsup
  - Mushroom Catsup
- Mayonnaise & Salad Dressings
  - French
  - Anchovy
  - Chutney
  - Catsup or Ketchup
  - Piquante
  - Parisian
  - Spinoza
- Mustard
  - Compound
  - French Style
  - Dutch Style
  - Dusseldorf
  - Hamburg
  - Paprika
  - Tobasco
  - Belgian or German
  - Horse Radish
  - Spiced Mustard
  - Salad Style

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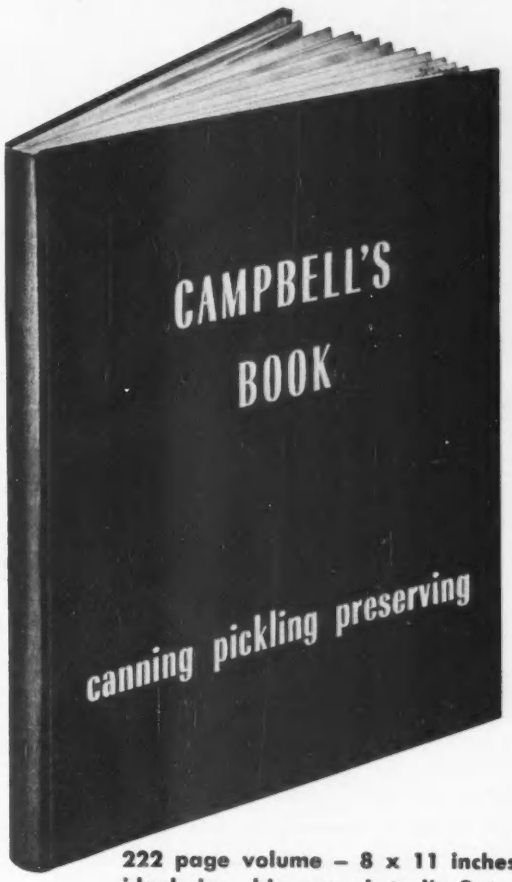

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Charts, tables and formulas are prepared to be taken directly into the quality control laboratory. No extra computation or seeking further details from other sources will be necessary. In preparing specialty products, details are presented on the type of ingredients used, the quantity necessary for a given end volume and the necessary operations to make the combination of ingredients a high quality pack.

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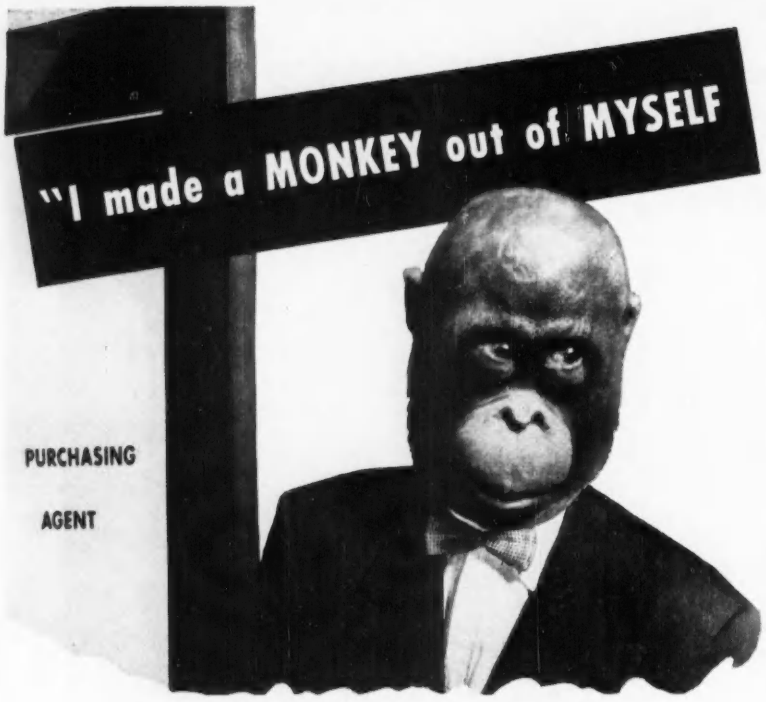

. . . by NOT buying those TOUGHER

BUFFALO *Conveyor* BELTS"

"Sure we've used Buffalo Belts, but I had forgotten how much *longer* they last when I got a chance to buy a 'bargain' belt. Now that 'bargain' belt has given up right in the middle of our busiest season."

They're made TOUGHER! Buffalo Conveyor Belts are made from the toughest cotton yarn available on the market. *They're woven TIGHTER* by our exclusive *Wov-In-Wear* weaving process on our own specially-designed looms. *They last LONGER!* Tougher yarns and tighter weaving naturally mean *longer life* for any Conveyor Belt. However, you never pay a premium for any Buffalo Conveyor Belt . . . just the regular established price! Yet users tell us they last years *longer*. Ask your mill supply man to show you the difference!

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FAIRMONT

(Continued from page 26)

About 175 cartons a minute can pass through the continuous freezer. Inside temperatures range from minus 35 to minus 40, and the freezer has a capacity of 24,000 cartons when full. It takes a carton about three hours to pass through the freezer.

At the Winnebago plant, two other packaging lines operate from conventional tunnel freezers. On one line, frozen peas are discharged into a Mara-Pak filler and boxer (similar to the one that services the continuous freezer.) This filler operates at a speed of 178 boxes per minute and services two Packaging Machinery Co. wrappers, each running at a speed of 90 boxes a minute.

The other line is equipped with a Klik-Lok carton former and closer and an FMC filler, all connected up with another high-speed Battle Creek wrapper.

Advantages of freezer

An important advantage of the continuous freezer, according to D. R. Montgomery, Winnebago plant manager, is its high rate of efficiency and low cost per unit packed. When it operates at its rated capacity of 6,000 pounds per hour, only one operator and a mechanic are needed to run it. The same volume on the packaging lines operating from the tunnel freezers requires eight people. If anything goes wrong in the continuous freezer, however, the entire line has to be stopped.

The tunnel freezers are more flexible. If there is a temporary shutdown in the filling or packaging lines, large quantities of frozen peas can be backed up in hoppers in a zero-degree refrigerated storage room on the mezzanine floor, and the preparation lines can continue to operate.

Fairmont's freezing operations require a tremendous amount of refrigeration. At the Fairmont plant, the installation, including Frick, York, and Carbondale units, is capable of producing 950 tons of refrigeration in 24 hours. At Winnebago, the installation can produce 550 tons of refrigeration in the same period.

"Promote Plant Safety" is a rigidly enforced rule at all the Fairmont plants. The company is proud of its safety record and attributes its success to the establishment and operation of the employee safety committee. This committee is made up for the most

part of year-around employees who are charged with the responsibility of correcting infractions of safety rules that occur anywhere in the plants.

"One of our big jobs," says Robert E. Dyslin, superintendent of freezing and current chairman of the safety committee, "is to impress on transient and seasonal help the need for safety. Often, some of these people are here for so short a time they aren't too concerned with a long-term safety program."

A general meeting of all employees is held at the beginning of the packing season, where the older employees point up safety precautions to newer employees. A similar meeting is held for all viner-station men. "We warn them against 'horse-play' during working hours, and tell them how serious a mere slap on the back could be if the recipient happened to be thrown off balance near a machine," Mr. Dyslin said. A registered nurse is on duty day and night in a well-equipped first-aid room when the plant is operating.

Dyslin sums up the company's attitude on safety: "If we prevent only one accident from happening during the year, we know that our safety program is paying off."

Just as much emphasis is placed on fire prevention. The Fairmont Canning Company was one of the first food-processing plants to organize an employee fire brigade. Earl C. Speicher, assistant plant superintendent and chairman of the fire committee, says that this brigade is made up of year-around employees and can function instantly when needed.

Gerber's adds banana dessert

Banana pudding is the newest strained food to join Gerber's many varieties of desserts for babies. The result of long laboratory research, this product presents easily digestible banana puree in a smooth custard, according to the company. It is packed in a 4¾ ounce can.

Standard overwraps available

Overwraps for frozen food cartons are now available in a standard design that will enable many packers and distributors to capitalize on their own brand names at minimum cost, according to Marathon Corp., Menasha, Wis., manufacturers of the wraps.

Brand names are reproduced in any combination of two colors. There are currently available 31 different vegetable standard designs, three for fruits, two for shrimp, and 14 for fish fillets.

Each step of the process is carefully watched and checked . . . By D&O buyers and agents in the growing regions . . . By D&O flavor experts and technical men in the New York laboratories.

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Quality Control Clinic

DR. WILBUR A. GOULD
Ohio State University
QUALITY CONTROL EDITOR

"Quality makes the product what it is"

Methods for evaluating flavor in processed foods

Gould discusses advantages, limits and applications of two subjective flavor evaluation methods—"consumer preference" and "panel difference"

THE FLAVOR OF PROCESSED foods is probably the most important single quality factor that the quality control technologist is concerned with. The most striking example of the need for flavor control and evaluation is in foods treated with chemicals used in the actual production or processing of the crops. This has been particularly emphasized in recent years due to the release of the many new insecticides. A classic example of this was found with fruits and vegetables treated with benzene-hexachloride.

Not only is the flavor factor important from the chemical additive standpoint, but also from the standpoint of determining suitable varieties of fruits or vegetables for processing, maturity levels of the crops, product formulation, processing methods, and the actual storage periods and conditions of the processed products. Flavor is important from the standpoint of repeat sales. There are many techniques in use today for the evaluation of the flavor in processed foods. However, the subjective (human evaluation) approach is still one of the best methods to determine the actual acceptance of the product. There are two general types of flavor evaluation methods in present day use. First, the consumer acceptance (preference) testing method and second, the panel difference method.

The consumer acceptance method is usually employed when a new product is being developed, a change in the manufacturing procedure of the standard product is deemed advisable, or for the constant quality checking of the manufactured product vs. competitors' products. This type of flavor evaluation is ideally conducted with a true cross section of the population market where the manufacturer wishes to promote his product. The number of members on the panel varies and such factors as income, food habits, age and sex may have considerable influence on consumer acceptance of the product.

Used by large firms

This type of flavor evaluation is being used at present by several large companies. The consumer acceptance panel, however, is a very expensive method for routine quality control of manufactured fruits and vegetables. The panel difference method is without doubt the best approach to use here. Actually, in practice the panel difference method should be used prior to the consumer acceptance test. If the panel finds the difference between the samples significant, then to find the actual consumer acceptance or rejection the product should be submitted to the consumer acceptance panel.

At the present time flavor difference panels can be classified into six general types: (1) Paired comparison test, (2) triangle test, (3) dilution test, (4) ranking test, (5) numerical scoring test, and (6) descriptive terms.

Before discussing these general types of difference testing methods, consideration should first be given to the following factors: (1) The actual selection of the judges (their availability, sensory acuity, health, etc.), (2) size of the panel (a small well-selected and well-trained panel is believed to be more precise than a large unselected and untrained panel), (3) preparation of the sample (temperatures of the product, cooking and serving procedure, size of the sample, and quality differences other than flavor), (4) conditions of judging room (use of booths, control of odors, type of lighting, temperature, humidity, etc.—see "There's more emphasis on quality—insure it with a good laboratory," FOOD PACKER, January 1952), and (5) number of samples to be tested at any one time. No specific number of samples to serve at any one time has been established; however, if the samples vary widely in their flavors, more samples can be evaluated at one time than if they vary less.

Miss Barbara Anderson, student member of Ohio State Univ. taste panel, evaluates a sample of whole kernel yellow corn for flavor in the University's new taste-test room.

In the paired comparison method, two unknown samples are submitted to the judges and the judges are asked which sample has the best flavor. In practice the judges may be given a preliminary sample (warm-up sample) and then they are asked to tell which of the two unknowns is the same as the warm-up sample. This method is used by some panels, but personally I prefer the second type of difference testing or the triangle method.

(Continued on page 44)

FOR sanitary mixing

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OUR NEW HIGH SPEED ROTA-THERM JACKET NOW AVAILABLE

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2 ...THEN FRESH WHOLE MILK

3 and NOW!

Aseptic Canning Produces a New Cold Concentrated Orange Juice That Retains Its Natural Flavor

Anderson's Pea Soup was the first nationally distributed product canned with the Martin Aseptic System. Mr. Andersen says: "We picked the Martin System because it is the only method that retains the natural flavor and color of our all-vegetable split pea soup." Later, the International Milk Processors, Inc. adapted the Martin System to their revolutionary method of canning whole fresh milk. And now, orange juice, put up by the Bordo Company promises to be another canned product of exceptional quality. Unlike frozen orange juice, the Bordo product is not affected by minor temperature changes. Its original flavor is retained and maintained from packer to consumer. Perhaps the Martin Canning System is the answer to improving your product and eliminating shipping hazards. Ask a Barnes Process engineer.

FREE Additional Data

is contained in this folder. Write for your copy today. Ask for Bulletin F-153.

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The Market Place

News of Promotion & Selling

Frozen food packages developed by Du Pont Company

Three new frozen food packages for frozen poultry, hamburgers and steaks were developed by the Du Pont Company for self-service.

The frozen poultry package is a folder with a die-cut window. When the folder is closed an inside polythene liner completely encloses the cut up pieces of chicken. Consumers can inspect the chicken through the window.

Four frozen hamburger patties in a printed tray are packaged in a polythene bag, while the four frozen minute steaks are enclosed in a double-wall, reverse printed cellophane bag that carries the slogan, "tastes as good as it looks."

Carry message to people: Stolk

American industry was urged by William C. Stolk, president of the American Can Co., before the 28th Pacific Coast management conference, to take the offensive against its attackers and carry "the magnificent story" of its contribution to "the drama which is America" directly to the people.

Stolk said the attacks against big business find it guilty on these three counts: producing the abundant stream of goods that provides the country with the highest standard of living known to any nation; keeping America strong enough to defend itself against foreign enemies; and being a customer and supplier of small business. The number of businesses in the United States, Stolk said, has grown from 1,660,000 to 4,000,000 in the past 60 years. He credited this growth to costly big business research which enabled small business to expand its production.

New bottle for bactericides

The trademark of Klenzade Products, Inc., Beloit, Wis., manufacturer of detergents and bactericides for food plants, dairies, and other organiations, now appears in blown-in form on gallon bottles used to package the company's liquid products.

The bottle with blown-in trademark and lettering is manufactured by Owens-Illinois Glass Co.; molded plastic closures by Armstrong Cork Co., Lancaster, Pa.; and labels are supplied by Remnel Lithographing Co.; Rockford, Ill.

Mel-O-Honey adopts dispenser

Mel-O-Honey is now being packaged in a new private mold jar with handy "dripcut" dispenser, according to the Melford Olson Honey Co., Crystal, Minn. Red plastic dispenser fits the jar for smooth pouring and brings an attractive container right to the table. The jar can be re-used for syrup, cream, or salad dressing.

Lithographed closures by Owens-Illinois Glass Co.; labels printed by U. S. Printing Co.; dispenser by Dispenser Inc., Los Angeles.

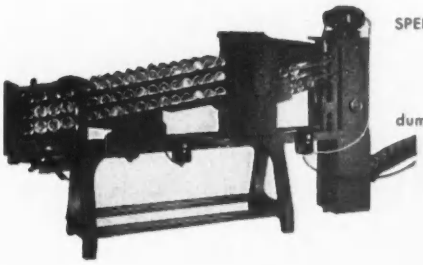
Triple promotion planned

Morton Salt, Wesson Oil and the Popcorn Associations have teamed up to launch the popcorn industry's biggest advertising and merchandising program that's "fairly popping with profit possibilities for dealers." A big bowl of popcorn is featured in all Morton and Wesson ads during the heavy popcorn consumption period from October 1 to December 31. The campaign is scheduled for newspapers, magazines, radio and television.

Heinz labels redesigned

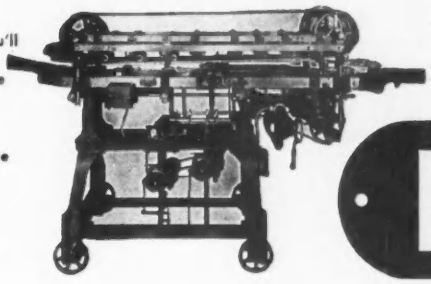
A complete label redesign program on most of the "57" varieties" is now in effect at H. J. Heinz Co., and fresh cucumber pickles is one of the first products to carry the new label nationally. The company listed three major objectives of the program: to make the name "Heinz" stand out on every package; to give more prominence to the individual variety; and to combine all design elements to aid in quick shopper identification of each product.

FOR '53—take a holiday from production headaches and enjoy many happy returns—**FOR YEARS!**



Install BURT HIGH SPEED CASE PACKERS. Pack 2 layers with each stroke. Automatic case dumping and balanced beam controls. Get this simplest can handling method available.

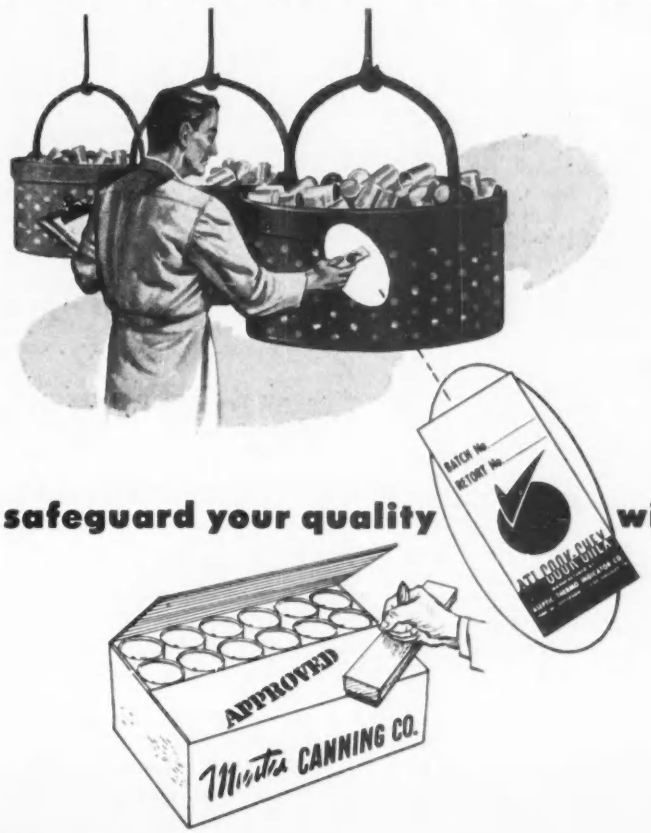
Install BURT NON-STOP LABELERS. You'll get uninterrupted service, including the exclusive Burt Dual Label Feed with no disarrangement of the label pack.



"Burt Beats Fleeting Time"

BURT

BURT MACHINE COMPANY, 401 E. Oliver St., Baltimore 2, Md.



safeguard your quality with ATI COOK·CHEX

Many leading food processors use ATI COOK-CHEX to "insure" cooking certainty, prevent spoilage, and prevent blown cans and flat sours. No matter how many different foods you put through your retorts, there's a specific ATI Cook-Chex tag for *your* protection, too. By a simple color change, from purple to green, timed to your process programs, ATI Cook-Chex will tell you if your foods have been cooked.

Government food inspectors know that canners who use ATI Cook-Chex are doing everything possible to safeguard quality.

Add ATI Cook-Chex to your quality control program. The low cost is insignificant in comparison to the spoilage and expense they can prevent.

Inspector-approved quality control retort tags . . .

FREE—samples of ATI Cook-Chex and valuable quality control data. Write today. No obligation, of course.

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Production Lines

New methods • New research

American Can Co. gives "preview" of new plant in Lemoyne, Pennsylvania

Residents of the Lemoyne-Harrisburg, Pa. area got a preview recently of the activities of a new neighbor through this exhibit based on American Can Co.'s products and Lemoyne plant now under construction. The exhibit was in the West Shore National Bank at Lemoyne.

R. D. Bergman, resident engineer of the can company, points out to John Witmer, executive vice president of the bank, the area Canco's new plant will serve when it begins producing a variety of food cans in late 1953. Many of the 510 canners of fruits and vegetables in the states shown on the map will be supplied with cans from the Lemoyne factory.

NCA releases 1952 corn pack statistics

A report of the 1952 sweet corn pack released by the National Canners Association gives statistics for corn in actual cases, by size of container and by states and styles. The total U. S. pack for 1952 was 38,212,332 cases as compared with 30,188,540 for 1951.

Continental Can Co. publishes research bulletin

Continental Can Co.'s latest research bulletin, "Vacuum in canned foods—its significance and its measurement," contains much of interest to the food processor. Besides illustrations and diagrams, the booklet includes information on vacuum measurement, reasons for vacuum, and sources of error.

Frozen baby foods offer new possibilities

Frozen fruits and vegetables in a puree form may offer new possibilities in the field of baby foods, an Ohio horticulturist said recently. Dr. W. A. Gould, Ohio Agricultural Experiment Station and FOOD PACKER's quality control editor, made his observations after conducting research with quick frozen snap beans and other vegetables and fruits made into puree form for infant feeding.

"Frozen baby foods retain their color and flavor very well over a period of nine months to a year," Gould said. "Furthermore, our taste testing panel showed a marked preference for the frozen products."

Gould found that one method for freezing and merchandising of baby food was placing the pureed product in freezing trays similar to those used for ice cubes and freezing at −20° F. "Three or four vegetable and fruit cubes may be packed in one container," Gould said. The pureed products also were packed in six-ounce baby food jars, vacuum sealed and frozen. "With this method the color of the frozen product is excellent," Gould said.

1952 pack of frozen cut corn, R.S.P. cherries, strawberries

The National Association of Frozen Food Packers recently issued preliminary reports on the 1952 pack of frozen cut corn, R.S.P. cherries, and strawberries. The cut corn pack increased again in 1952 and reached an all-time record high of 56,562,522 pounds, which is 27 percent greater than the 1951 pack.

However, the R.S.P cherry pack of 61,797,560 pounds was down 38 percent from 1951 and smaller than the pack for any year since 1945. Exclusive of California, the frozen strawberry pack amounted to 145,931,607 pounds. This total was nearly 24 percent greater than the 1951 pack but not quite as large as the record 1950 pack.

Photograph and text courtesy LOOK Magazine

Average U. S. family opens 788 cans a year

Last year, America's bountiful table was set with some 350 foods that came in more than 30,000,000 cans—an average of 788 cans per family. Types of canned food stack up for the typical U. S. home like this: 288 fruit and vegetable, 96 evaporated milk, 86 fruit juice, 48 coffee, 41 meat and poultry, 34 seafood, 16 shortening and 153 beer cans—as well as 26 miscellaneous. According to the U. S. Department of Agriculture, it is as safe to keep food in the can it comes in, if cool and covered, as to empty the food into another container.

THERE WILL BE *4 Beauties*

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A. K. ROBINS & CO., Inc. booth
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BOOTH No. 5

Come in and get acquainted with them . . . they're sensational . . . in design, in construction, in operation and in performance.

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Manufacturers of Food Processing Machinery Since 1855
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THE ROBINS LINE INCLUDES EQUIPMENT FOR PROCESSING

Apples and apple products
Asparagus • Beets
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Peaches • Peas
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Potatoes—white and sweet
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Wherever you look...
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APPLE PRODUCTS
the Standard of Quality for sixty years

NUTRL-JEL
for preserves, jams, jellies, marmalades

CONFECTO-JEL
for jellied candies

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CONCENTRATED APPLE JUICE

Plants in Apple Regions From the Atlantic to the Pacific

SPEAS COMPANY, General Offices, Kansas City 1, Missouri

What's new?

Supplies • Equipment • Trade Literature

ROLLER CURVE

This power driven roller curve eliminates conveyor line slow-ups and handles any package that can be moved on a gravity roller conveyor, according to its manufacturers. Available in 90 and 180-degree curves, it eliminates jamming and maintains a uniform rate of flow for the conveyor line, the company says.

For complete information write to Harry J. Ferguson Co., 159 West Ave., Jenkintown, Pa.

MIDGET THERMOSTAT

A redesigned midget thermoswitch, whose heat-sensitive shell has an outside diameter of one-fourth inch, was introduced recently for those applications in which precision temperature control or overheat detection must be provided in solids, liquids or gases where space is at a premium. The thermostat is adjusted to any temperature set-point from -50° to 450° F. and has an inherent sensitivity of 0.1° F.

Manufactured by Fenwal, Inc., Ashland, Mass.

AUTOMATIC CONTROL SYSTEM

Atmospheric condensation that affects food in storage can be avoided by an automatic control system introduced recently, according to the manufacturers. This system keeps the temperature of the stored material above the dew point of the air. Since the controller takes this corrective action before moisture conditions devolop, it completely eliminates a major cause of expensive storage loss, the manufacturers say.

Data sheet available from the Foxboro Co., Foxboro, Mass.

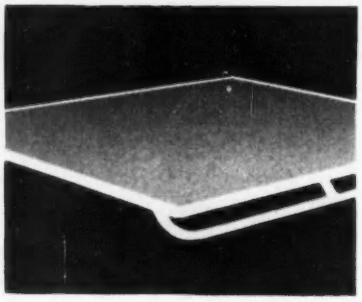
UNIVERSAL COUPLING

A new type of universal coupling, operating on the ball and socket principle, is available for machinery requiring coupled shafts, either at an angle or straight line.

The unit features simplified construction with a reduced number of working parts, the manufacturers say. The essential of the unit consists of a ball that fits into a socket with the stress of power transmission absorbed by two oversized keys. A reservoir in the base of the socket retains lubricant for slow feeding to points of wear.

The absence of the customary block and pins provides a small unit in relation to the size shaft it will turn. It has a maximum deflection of 30 degrees and is as strong as the shaft it is bored to receive, according to the manufacturers.

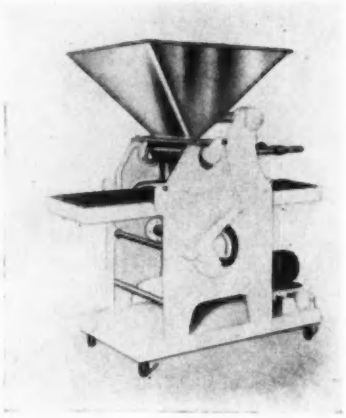
Full details are available from the B. M. Root Co., York, Pa.



STEEL PALLET INTRODUCED

An all-purpose heavy-duty tubular steel pallet is lighter than wood but priced in the same brackets, according to its manufacturers. Shown above is one of the many types which depart from conventional pallet design (patent applied for.) The eight-entry product has tubular steel runners welded and braced to an angle-iron frame. The manufacturer announced that the pallets will be built to customers' specifications.

Developed by Econoweld Co., 1805 Webster St., Dayton, Ohio.



NEW FILLING MACHINE

This high speed, four line filling machine that fills all types of viscous products, including jellies, preserves, mayonnaise, and peanut butter, was developed recently. The machine fills all sizes and types of containers by the bottom up and clean-cut-off method. It fills up to 80 containers per minute and has a range of from four ounces to gallons.

For additional information write to The Filler Machine Co., Inc., Philmont Club Station, Philmont, Pa.

LOADING DOCK SHELTER

Canvas loading dock shelters which extend outward on a collapsible steel framework to shelter truck or freight car loading doors, and which collapse flush against the building when not in use are now being mass-produced. The manufacturers point out that these shelters protect men and materials against extremes of weather, increase labor efficiency, and keep dock-boards dry.

Booklet available from Atlas Products Co., 1300 W. Washington Blvd., Chicago 7, Ill.

PISTON FILLER

A portable filler that can be moved and operated by one man is now available for liquids and semi-solids. It plugs into a light socket and is ready for operator filling of from 15 to 30 one-ounce to 32-ounce containers per minute. The filler can be dismantled in three to five minutes and is easily cleaned, its manufacturers say.

Developed by F. L. Burt Co., 571 7th St., San Francisco 3, Calif.

One unit dices

Beef • Pork • Mutton • Turkey • Chicken • Onions

Citrus Peel • Celery • Peppers • Cabbage • Mushrooms

Two popular Urschel units, Models "L" and "SL" have been combined into *one* machine to give Packers the best value in years of economy and production efficiency!

- Two hoppers are featured: Hopper at left for beef, pork, mutton, onions, cabbage, etc. Hopper at right for chicken, turkey, celery, peppers, etc.
- "SL" section dices cubes of ¼", ⅜", ½", and pieces up to ½" x 1" x 1".
- "L" section dices squares of ¼", ⅜", ½", ¾", and 1".
- Features rugged strength, quick cleaning, easy maintenance.
- Occupies only 17 sq. ft. floor space.

HIGH SPEED Capacity 2,000 to 8,000 lbs. per hour

Send for Urschel Bulletin containing full details.

PRECISION HIGH-SPEED FOOD CUTTING EQUIPMENT

URSCHEL LABORATORIES INC.
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manufacturers of precision, high speed cutting equipment for delicate food products

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HORIX FILLERS FOR

all wide mouth containers

Valves specifically designed for BRINING, SYRUPING, SAUCING, as well as catsup, vinegar and all food products.

Horix fully automatic fillers will fill in CAN or GLASS from one ounce to two gallons—Cleanly, Fast. Speeds up to 600 #202 cans per minute. Every fill accurate to a pre-determined height. No splash or spill . . . container sealed during fill.

Any shape or size handled with equal ease. Change overs easily made from product to product, or from one container style to another. Built to stand up through long, hard runs. All parts readily accessible for quick, thorough cleaning—with steam or pressure hose. Available valves and change parts make every Horix a multiple product filler.

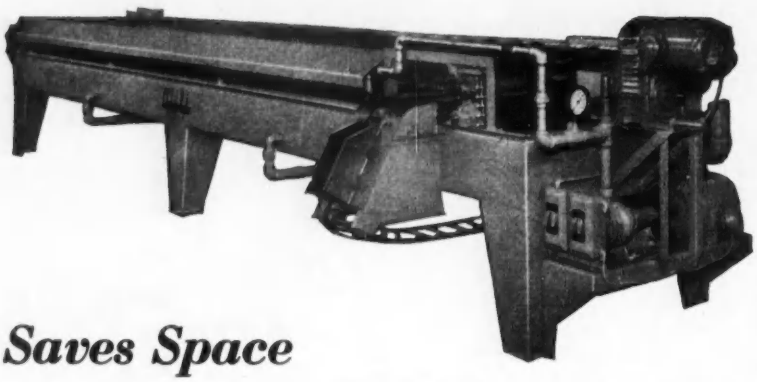
Visit us at the CANNER SHOW Space No. 38. On display will be a Can Filler showing the Horix principle of operation.

Horix Model HAV 38 valves installed at the Welch Grape Juice Co., Northeast, N. Y.—shown filling grape juice concentrate into 6 oz. cans at the rate of 425 per minute.

FIRST BUILT— STILL FIRST

HORIX
MANUFACTURING CO. · PITTSBURGH 4, PA.
FILLERS AND CONVEYORS

The CRCO
SPINNER COOLER
Available In Four Models



Saves Space

Requires less than 50% compared to conventional types of spinner coolers.

Saves Labor . . .

Continuous operation without attendant as compared to cooling in retorts or canals.

Saves Time . . .

More efficient heat transfer than conventional models. 25% less time required in cooler.

Saves Maintenance . . .

Simplified construction. No belts to cause difficulties. Easy access to all parts.

Saves Quality . . .

Positive and uniform temperatures obtained through variable controlled timing device.

Saves Injury . . .

Gentle handling of cans throughout avoids injury.

Available in 8 and 12-row models handling up to 404 x 700 sizes, and in 5 and 8-row models handling No. 10's.

See your CRCO representative or write for details and prices

THE BEST OF Everything

CHISHOLM-RYDER CO. INC.
Niagara Falls, New York
FOR THE FOOD PROCESSOR

Chisholm-Ryder Company of Pennsylvania — AN AFFILIATE
Ayars Machine Company — A SUBSIDIARY

308

GOULD

(Continued from page 36)

In the triangle method the judges are given three samples, two of which are duplicates. The judges are asked, "is there a difference among the samples and if so, which two are identical?" This method is very good when evaluating a small number of samples and when attempting to determine small differences in flavor between the two samples. I prefer to use this method in conjunction with the scoring method (see below).

The dilution testing method is of considerable value when determining differences with homogeneous materials. We have had considerable success in using this method to find actual quantities of insecticides present in processed products and product formula variations. Success in using this type of panel is determined to a great extent by the threshold acuity (level) of the panel members, at least, when working in the lower concentrations of the flavoring materials.

The ranking test finds excellent application for routine quality control of ingredient mixing, production changes, etc. Here the judges are asked to rank the samples in decreasing or increasing order of flavor intensity. With this method samples from a day's run can be ranked in order of flavor differences, and then, to find out if the differences between the best and the poorest samples are significant, a triangle test can be conducted.

In commercial practice, however, the numerical scoring method has probably found the greatest application. In most U. S. Department of Agriculture standards where flavor is a factor, the inspector actually scores the product according to its worth on a numerical scale. In some standards flavor may hold a prominent place while in others it may be entirely neglected. In the routine quality control of plant production, the technologist can score the product and then the extremes can be further evaluated by a panel using the triangle method. Probably the greatest problem with the numerical scoring method is the lack of a consistent and constant reference point. Therefore, the use of a trained panel to score the product continuously is the only satisfactory method known. The technologist should set up a panel of flavor judges and constantly refer samples to this panel throughtout the campaign to make certain that the quality meets product specifications.

The last difference test is the de-

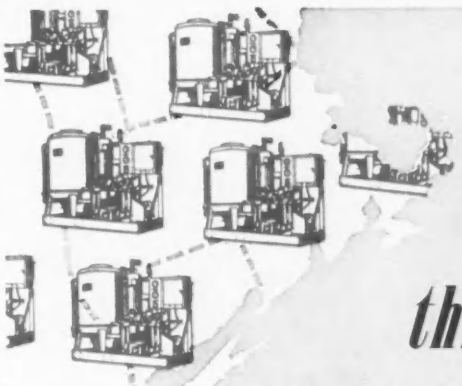
scriptive terms method. Here, little application has been made in the processing industry. However, the method offers great possibilities. The Arthur D. Little Laboratories approach, the flavor profile system, would seem to offer much to flavor evaluations from a control angle, at least. Judges should attempt to describe the flavor or give their impression of it because word descriptions mean a lot when attempting to locate off-flavors or to define highly desirable flavors.

Regardless of the method used, the results are of little value unless they are taken carefully and unless the panel can repeat a test on the same samples at any given time. This means that in each test check samples should be used. Personally, I like to use two identical controls with my samples. In this way you can detect good and poor judges because they must score the check samples the same each time. Further, judges should be selected on their ability to evaluate flavor differences rather than on their relative position in the company.

Interpret data

Interpretation of data obtained from any of the above methods is without doubt the most difficult phase of present day flavor evaluation. The statistical approach is the only logical way of attempting to interpret the data. The chi-square and analysis of variance methods which determine the least significant difference are two statistical techniques frequently employed. The probability table of Roessler, Warren and Guymon *(Food Research Vol. 13, 1948)* is a good approach to use when trying to interpret the data obtained with the triangular method. More recently, the extensive work of Bradley, Terry, Duncan and Davis at the Virginia Polytechnic Institute offers new methods of interpreting taste panel data.

Another technique that seems to be of value is the quality control chart. With the quality control chart approach one can check both samples and judges. After you set up control limits for both samples and judges, it is easy to determine the good and the off samples or the good and poor judges. The quality control chart method has not been used too frequently with taste panels, but it would seem to be of considerable value in routine flavor control in plants. (In a future article, I will explain the quality control chart technique as it applies to flavor and other factors of quality in the production of processed foods).



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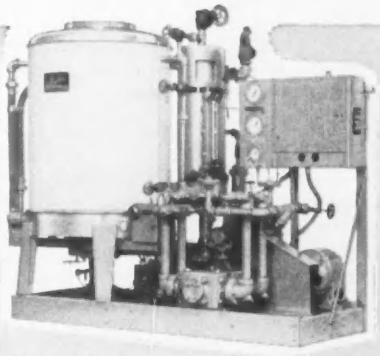

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FRED HEINZ

(Continued from page 27)

That movement towards the food source really started something. Canning plants were launched in new areas and new products added to the canned foods lists. Vegetable canneries sprang up in Iowa between 1870 and 1880. Meats were canned in Chicago in 1872; shrimp in New Orleans in 1875; and canned sardine production began in Maine the next year. In 1878 a salmon cannery was built in Alaska, peas were first canned in Wisconsin in 1881. The first pineapple cannery was built in Hawaii in 1892. Condensed soups were started in the United States in 1897. The number of canning establishments rose from less than 100 in 1870 to 1,800 in 1900.

The fact that canned foods production at the close of the Civil War had jumped sixfold, while impressive, is to me far less significant than the spread and growth of the canning industry in those wonderful, progressive, peaceful decades that followed.

The accomplishments by the machinery and supplies people that made possible the growth of canning are too extensive to give in detail. But I would like to throw the spotlight on some that were originated by machinery pioneers of the Empire State and which bring home the greatness of this State and its outstanding leadership in canning affairs.

First corn equipment

In that fruitful post-Civil War period of machinery invention and development, the records give New York State credit for the first corn canning equipment; produced by Merrell & Soule of Syracuse from patents issued in 1872. Later they introduced the first rotary capping machine and the first continuous canning line, according to the late O. L. Deming, contemporary historian of canning affairs. He credits H. C. Hemingway (and that's a famous name in New York canning circles) with producing a successful "gun cooker."

It was Welcome Sprague who brought out the first satisfactory corn cutter at Farnham in 1883, displacing others then on the market, states Mr. Deming. W. H. Sells invented the corn husker and built it right here in Buffalo. John C. Winters brought out a continuous processing machine at Mt. Morris and later came out with the first high temperature processing machine, using calcium. C. A. Burt created a labeling machine in his workshop in Rochester.

The first commercial operation of a pea viner in America took place at Springville in 1890, and Mr. Deming, the only trade journal reporter present, contributed to canning history archives a sprightly account of that occasion. It is sprinkled with names famous in canning machinery circles, not only in New York, but nationally. Mr. Deming's account says (quote):

"The two original Chisholms—C. P. and J. A.—were there, as also the Scott retinue, including "Doc" Bissing, the attorney general of the group, and W. H. Rife of Baltimore, but Thom Scott wasn't there. He was too young; besides he was busy growing timothy on his chin and acting as draft clerk in a jewelry store in Cadiz, Ohio. C. A. Twitchell, just retired from banking at North Collins, was the leading factor in the cannery at Springville, and he worked like a pinch-hitter with the viner group to make the machines work. What the invited guests didn't know about pea viners didn't hurt them. The tragedy of trying to make them work was overlooked in the anxiety to see how badly the peas had been smashed. To the surprise of everyone, not all the peas had been smashed beyond recognition; in fact, they came through in pretty good shape. Few realized, however, that there was about one mechanic to almost every pea. The pea viner, while it had all kinds of trouble at the start and the company had to take back most every machine they put out in the first three years of its operation, yet stands today, as one of the greatest labor-saving devices to come out of the canning business."

Story of the sanitary can

And in the container field a tremendous contribution originated in New York State. It was at Fairport at about the turn of the century that the sanitary can was developed into a commercial success. The sanitary can story is a remarkable example of the interdependence and teamwork of different interests in this industry. Its sponsors, all New York men, and all now among the honored dead, were a triumvirate of determined and tenacious innovators. There was Max Ams, of the machinery field; W. Y. Bogle, a grocery distributor; and George W. Cobb, then a canner, later a prominent can manufacturing executive. From the first letters of their last names their contemporaries named them the "A-B-C" of the Sanitary Can. A commonplace today, there are probably a majority in this room who never knew any other type of can. Only the elders here can recall the "hole-and-cap" can it displaced. Launching this revolutionary project took perseverance, faith, vision, downright stubbornness. Ideal in theory and science, sound in mechanics, it still was a discouraging, up-the-hill-all-the-way endeavor to put it across. Discouraging pressures many times nearly stopped operations, but every time, when prospects looked darkest, these men gave the project more time, more money, more and more intensive effort, until success finally crowned their pioneering work. Their sales brochure of 1905 is a museum piece. On one page they cite, under the heading "Advantages to Packers," the following list of improvements achieved by the Sanitary Can:

"No solder, no steels, no copper; no capping, no cappers; no acid, no acid stains; no tipping, no tippers; no wiping, no wipers; no gas, no gasoline; no fire pots, no fire risks; labor saver—rapidly filled, rapidly sealed; output increased—thus enabling packer to keep up with receipts; can contents open to inspection at packing table; labeling facilitated, "bottom like the top," no lacquer or wrapper labels required to hide ends of can."

That's an awful lot of advantages to achieve from one single invention. But time has proved all their claims sound, and pack statistics demonstrate how the new style can elevated foods production. It stands as one of the many milestones to canning progress that we can credit to the genius of our friends in the machinery and supply fields. You in this room can be proud that it had its birth, like so many of the others I've mentioned, right here in the great Empire State.

The various incidents and happenings of those days were of tremendous importance. The indifference of man and the dust of time are gradually covering these records with a mantle of dissolving silence and obliteration. I think it is healthy and respectful to bring them to life now and then, for truly the past is prologue to the future.

Unique relationship exists

In tracing these case histories one is struck by the fact that canners and their supplymen have a unique relation. It is not the cold relation of buyer to seller; it has become in many celebrated instances, a partnership acting for the public good. The machinery and supply people have made the advances of canners possible; they have been leaders and

partners in research in canned foods technology. The important production sessions of our annual conventions are made possible by such teamwork.

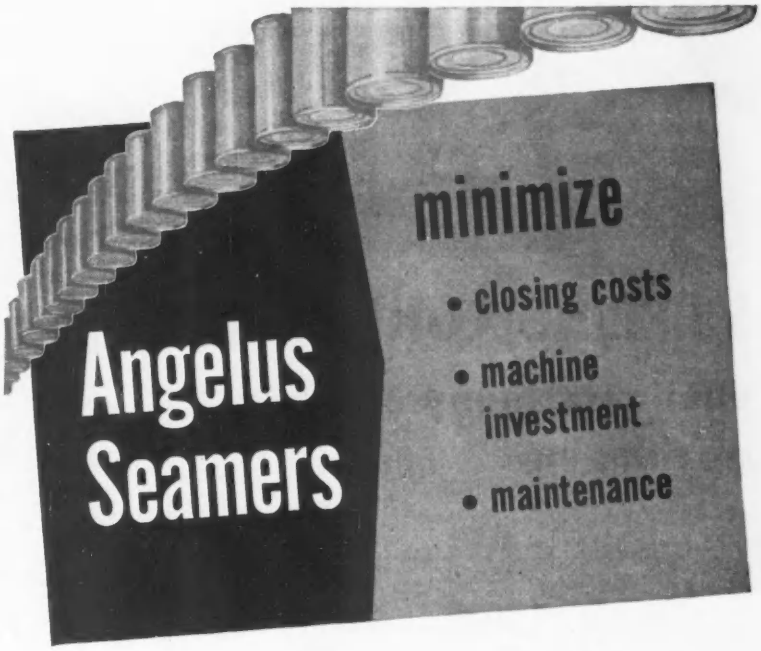
In Chicago in 1953 the Canning Machinery & Supplies Association will take an active and leading part in the sponsorship of a processing session, and your own Hal Johnston, of Rochester, has named a fine committee, now working with the N.C.A. staff on this program. Our anual conventions have enjoyed from the very beginning a joint sponsorship, and the annual machinery show has always been a bright and leading attraction at this great convocation. We have never forgotten that the original laboratories of the National Canners Association were an outright gift of the American Can Company and that they and other container companies have made annual contributions to the operating funds needed for our scientific research. I recently read an article of 12 printed pages detailing collaborative research between N.C.A. and industry laboratories.

Supplymen made NCA buildings possible

Those two new beautiful N.C.A. buildings in Washington and Berkeley, Calif., would not have been possible if we had not been able to add to our funds the very generous contributions made by more than a hundred of the machinery and supply firms. One of my richest personal experiences was my service as chairman of that fund-raising effort, when I derived first-hand evidence of that generosity and the vision and loyalty displayed by these people whose products are so vital to our efforts to preserve the food of the land.

So I say, in closing, that it has been a source of much gratification for me to pay my respects to this great branch of our great industry and to do so in a place that abounds with so many examples of its fine contribution.

Indeed, since Appert's time we in America have fathered many innovations. We have built his list of products from 50 to more than 400. We have produced, out of our research and with the ingenious tools our machinery and supply brotherhood have given us, such health-building items as canned juices, such drudgery-saving products as baby foods, and countless others. Together, by keeping our sights on science and technology, we have been able to elevate to tremendous heights the living and health standards of this nation and the world.



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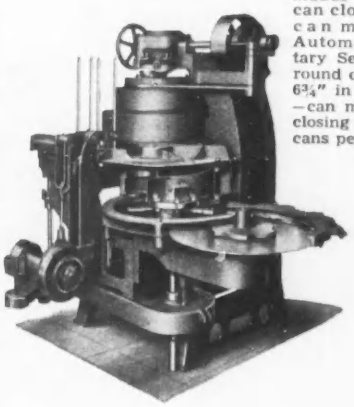

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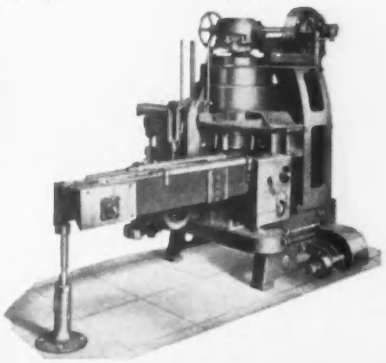

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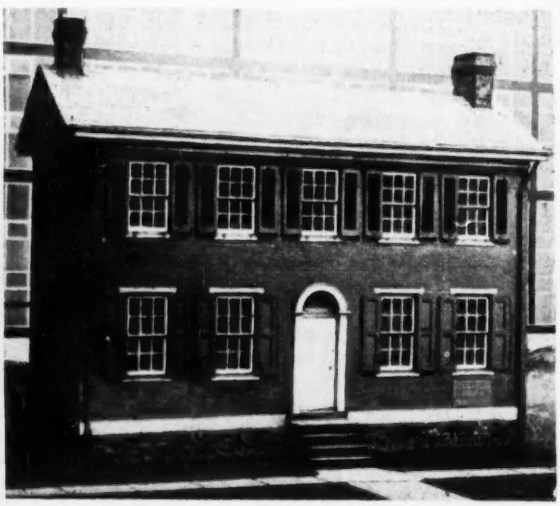
New grape juice introduced

An opalescent juice made from white grapes was developed recently at the New York State Agricultural Experiment Station at Geneva. It was introduced for the first time at the fifth annual food processing conference held at the Station November 12. The new product is in line with other efforts underway to find new outlets for New York State fruits.

Shown left to right with the young lady who is dispensing the beverage are: Dr. Carl S. Pederson and Dr. Willard B. Robinson, Station food scientists who developed the new type juice; Morton Adams, Alton Canning Co., Alton, N. Y.; Dr. David B. Hand, head of the Station's division of food science and technology; and William H. Sherman, Rochester, N. Y., secretary of the New York State Canners and Freezers Association. About 160 research and production men from the food processing industry heard a review of new developments in the Station's food research.



Heinz home moved to Greenfield Village

Newest addition to the world-famed Greenfield Village at Dearborn, Mich., is this little house where in 1869 H. J. Heinz started the business that grew into the "57 Varieties" of H. J. Heinz Co.

The house was dismantled for shipment to Dearborn where it will be reconstructed as a memento of the development of the country's food industry. Necessity for moving the house from Pittsburgh resulted from the firm's current building expansion program.

Mr. and Mrs. Roy Irons, of Clyde, Ohio, who celebrated their 50th wedding anniversary on December 21, 1952. Mr. Irons is an old-timer in the nation's canning industry.

Golden wedding anniversary is celebrated by Ohio canner and wife

Mr. and Mrs. Roy Irons of Clyde, Ohio, celebrated their 50th wedding anniversary December 21, 1952. Mr. Irons has enjoyed a long and honorable association with the canning industry. In 1919, he became secretary of the Ohio Canners Association and in 1922, he was appointed secretary of the National Kraut Packers Association. He relinquished both duties in 1950. Previous to his appointment with the Ohio association, he operated three Ohio canning plants at different times: The Waynesville Canning Co.; Spring Valley Packing Co.; and Sears and Nichols Canning Co.

(Continued from page 32)

firm makes sliced dried beef, prepared mustard, peanut butter, and smoked herring.

The company is an old established one, and the treatment of the brand name has been accepted by consumers on other Beardsley products. Therefore, it was desirable to identify the new codfish cakes with the known Beardsley quality, and, according to Mr. Nash, it was felt unnecessary to consumer test the package design.

"Certainly the package did create the first sales, but the quality of the product has created the repeat sales", Mr. Nash said. And Mr. Beardsley added, "We have found since 1857 that there is no substitute for quality, either in raw material or in package design."

Price list and catalog issued

Magnus, Mabee & Reynard, Inc., New York, recently issued their price list and catalog for the fourth quarter of 1952. This illustrated booklet lists all the MM&R essential oils, aromatic chemicals, flavors and colors along with quantities available and prices of each.

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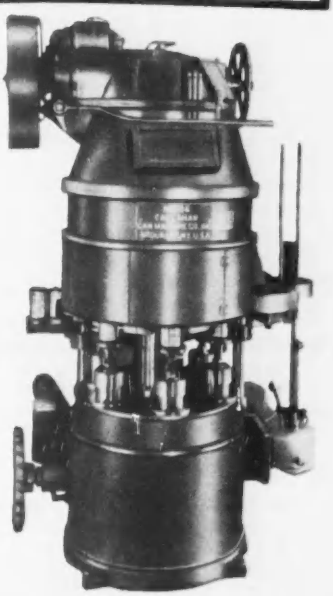

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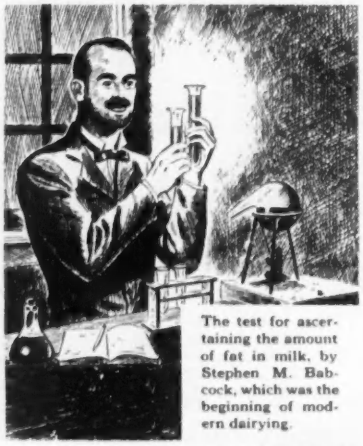
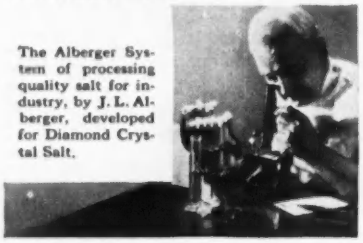


The test for ascertaining the amount of fat in milk, by Stephen M. Babcock, which was the beginning of modern dairying.



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Diamond Crystal-Colonial Salt Division
General Foods Corporation
St. Clair, Michigan - Akron, Ohio

WASHINGTON

(Continued from page 13)

mild decay" that the flies come around. So a flyblown tomato product is evidence that before the flies had done their infestation some marked spoilage had set in. So the tomatoes shouldn't have been processed. Then there's the not so ingratiating fact that these blows have an incredibly brief incubation period and that at times the evidence shows up not as eggs but as maggots. Anyway, don't tell Aunt Carrie! She takes most things calmly, but there ARE limits.

Incidentally, the chemists of the F & D Administration tell us something of no value to you as a food processor but that may have some interest to you as a family man. They say that in the practical testing of cosmetics for deleterious factors they have their best luck in trying the stuff on pigs, since pigskin reacts to cosmetics almost exactly as does the rosepetal bloom of milady's cheek! We know an association executive who, upon learning this fabulous fact, could hardly wait to get home so he could convey the information to his everloving helpmeet. Some men just don't know when they're well off.

Competition, as mentioned before, is getting a thought hard in the field of branded-foods production. Everybody knows why, so everybody says, but these wise men seldom agree. They're sure that larger volume and better methods have helped against the squeeze, but not always enough to get them over the river of cost absorption without getting their feet wet.

So reports come in from several sources that some big processing companies have been looking carefully at the super markets with their large and varied non-food sidelines. Apparently they're not thinking of going into the super market business, but these executives are wondering if the reailers find it good business to carry these alien lines, why it wouldn't be possible for processors to manufacture some one or several non-edible products suited for distribution through food stores. One hitch is the fact that the new line must have a wide profit potential. Its' a good trick if you can do it.

The Department of Health in New York reports there was not a single outbreak of food poisoning last year directly traceable to the use of frozen foods. This New York record seems to have been substantially duplicated in other reporting areas. And that's something.

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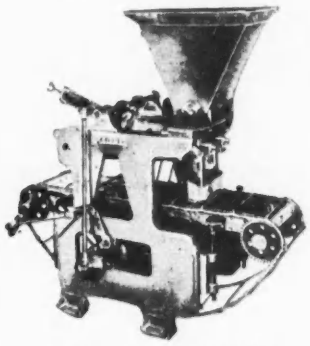

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How they got there

Biochemist Conrad A. Elvehjem

IF YOU VISIT THE laboratories in the biochemistry building on the campus of the University of Wisconsin any morning between 8 and 9 a.m. (9 and 10 a.m. on Sunday mornings,) you will find Conrad A. Elvehjem—you pronounce it "Elvayem"—making his rounds and discussing with his students their latest data. He might stop to study growth results on chicks fed different rations to determine if there are more B vitamins; to observe paper strips used in chromatography for separating new forms of vitamin B_{12}, or to puzzle over the growth of monkeys maintained on concentrated army rations.

As a student in biochemistry almost 30 years ago, he learned the value of having Professor E. B. Hart stop each morning to discuss the progress of his experiments. He still maintains that these early morning conferences were the most interesting and valuable experiences in his training. Although Professor Hart retired seven years ago, he still continues his visits and often you will find Hart and Elvehjem discussing, over a dog cage, the most recent developments in nutrition. Since 1946 Dr. Elvehjem has been dean of the graduate school and must, therefore, spend afternoons in that office, but he is happiest when he is in the midst of his biochemical and nutritional problems.

Born in Wisconsin

Dr. Elvehjem was born on a farm near McFarland, Wisconsin, in 1901 and did both his undergraduate and graduate work at the University of Wisconsin, receiving his Ph.D. degree in 1927. After serving as instructor in the department for two years, he received a National Research Council fellowship to study in Cambridge, England, under Sir Frederick Gowland Hopkins. It was in this environment that he became interested in enzymes and upon his return to Madison initiated the studies which have lead to a clearer understanding of the relationship between vitamins and enzymes.

During the past 22 years while he rose from assistant professor to full professor he has not only seen this field develop into one of the most important phases of biochemistry, but he has seen the establishment of the Enzyme Institute at the University of Wisconsin for the purpose of furthering research on enzymes. He recalls that he brought with him from England the first Barcroft respirometer, which is used for measuring the activity of respiratory enzymes, to be set up on the Wisconsin campus.

Although Dr. Elvehjem worked mainly on calcium, phosphorus, iron, and copper before going to England, upon his return he felt that the isolation of additional B vitamins from liver extract, which was then available for the treatment of pernicious anemia, would be a fruitful field. Using a variety of experimental animals in the assay of new factors, he was after seven years successful in identifying the antipellagra factor as nicotinic acid. With the availability of this vitamin it became possible to continue the search for others and Dr. Elvehjem has had much to do with each of the new factors, such as pantothenic acid, biotin, and folic acid.

It took another 13 years before the antipernicious anemia principle in liver extract was identified as vitamin B_{12}. Again Dr. Elvehjem made many valuable contributions to this final story. In each case he was interested in developing simple methods for the estimation of these vitamins in food materials. For example, some of the first figures for the distribution of vitamin B_{12} in foods came from his laboratory.

It was not only his laboratory findings, but his interest in the practical application of these findings that gave him national recognition. When the National Research Council organized the Committee on Food and Nutrition (later known as the Food and Nutrition Board) he was one of the charter members. Because he had carried on studies dealing with the vitamin content of meat, supported by the National Livestock and Meat Board, and of canned foods, supported by the National Canners Association and the Can Manufacturers Institute, he was well qualified to gather this information.

Serves on advisory boards

Because of his broad interest in nutrition, Dr. Elvehjem is frequently asked to serve on advisory boards. He has been a member of the Council on Foods and Nutrition of the American Medical Association for many years and a member of the Scientific Advisory Committee of the Nutrition Foundation since its inception. The National Foundation for Infantile Paralysis and various councils of the National Institutes of Health and the Institute of Baking have also called upon him for advice.

In 1948 the Chicago section of the Institute of Food Technologists selected him for the Nicolas Appert award. He has also received the Mead Johnson award for research on the B vitamins, the Grocery Manufacturers award and the Osborne-Mendal award. In 1943 he was the recipient of the Willard-Gibbs medal given by the Chicago section of the American Chemical Society. He is a member of the National Academy of Sciences and the American Philosophical Society. The many honors he has received were augmented recently by the Lasker award from the American Public Health Assn. "for vastly expanding our knowledge of nutrition and its relation to medicine and science . . . for fundamental discoveries in the treatment of human and animal diseases stemming from diet deficiencies."

Although he is interested in his own research, Dr. Elvehjem is also interested in helping others get their programs under way. He gives his students a great deal of freedom in selecting and carrying out their thesis problems. Frequently he speaks out on the importance of freedom in research but he adds that the research worker also has obligations to his fellow citizens. In other words, Dr. Elvehjem feels that the modern scientist works under conditions not dissimilar to most human activities. The scientist is dependent upon the fund of knowledge that has preceded him, upon the cooperation of his co-workers, and upon chemical laboratories that supply new chemicals. Like his friends in any other business, he is spurred on by the knowledge of brilliant competition in other laboratories all over the world.

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